

Outcome Evaluation of an After-School Program for At-Risk Middle School Students

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Abstract

KELLE D. FALLS: Outcome Evaluation of an After-School Program for At-Risk Middle School Students
(Under the direction of William B. Ware)

Middle school is a time of significant transition for students, and support is needed to ensure school success during this time. This evaluation study examined student outcomes within the context of an after-school program designed to support student success. Participants were 132 middle school students participating in the program at seven different middle schools. Student course grades, school attendance, and student disciplinary actions were examined over the course of program participation, taking into account student attendance in the after-school program. Findings indicate no statistically significant differences in student Mathematics achievement, school attendance, and student behavior from the beginning of the program year to the end. A slight statistically significant difference was found in student Language Arts grades throughout the program year. Results from correlational analysis indicated no relationship between student attendance in the program and outcome variables. Findings were discussed and recommendations were provided for program improvement and future studies.

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CHAPTER 1

Introduction

This chapter provides an introduction to the issues facing middle school students, specifically in the areas of decreasing academic achievement, decreasing rates of school attendance, and increasing behavioral issues at school. After-school programs are introduced as a possible solution to the problems facing middle school students today. The research questions guiding the current study are then presented, along with a description of the after-school program being examined. The theoretical framework for the study, Maehr's (1984) Personal Investment Theory, is also described in detail and applied to student participation in after-school programs. Finally, the logic model for the current evaluation of the after-school program of interest is presented and explained in detail.

Current Issues Facing Middle School Students

Developmental psychologists have identified early adolescence as a crucial time of change; children are seeking independence and identity, while also going through a powerful physical transformation (Eccles, 1999). Adolescents also encounter vast changes to their school structure at this time as they transition into middle school. Challenges may arise as students are presented with new class schedules, new curricula, and new teachers, all while going through this transition in their own personal development (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008). These challenges

can often interfere with their ability to excel educationally, and many students struggle both academically and emotionally (Blyth, Simmons, & Carlton-Ford, 1983; Eccles, Lord, & Midgley, 1991; Finger & Silverman, 1966). The school struggles of adolescents are particularly evident when looking at performance indicators in the areas of academic achievement, school attendance, and student behavior. Students from the U.S. have low rates of achievement on large-scale standardized tests, attendance rates are low, and student behavioral issues are increasing in schools across the country (Balfanz & Byrnes, 2012; National Center for Education Statistics, 2011; Robers, Zhang, & Truman, 2010). Furthermore, student academic achievement and school attendance often decline, while negative behavior rises, during the transitions between elementary-middle and middle-high school, particularly for minority and at-risk students (Burchinal, Roberts, Zeisel, & Rowley, 2008; Heller, Calderson, & Medrich, 2002; McIntosh et al., 2008). To keep students on a path toward successful school completion through middle school and beyond, it is vital that support be provided to these adolescents. Participation in structured after-school programs seems to be one way in which students can receive the support that they need to be successful (Cooper, Valentine, Nye, & Lindsay, 1999; Fletcher, Nickerson, & Wright, 2003; Gilman, Meyers, & Perez, 2004; Stewart, 2008). While providing students with a safe place to spend the hours after the school day ends, after-school programs also give students access to positive role models, same-age peers, knowledgeable tutors, and opportunities for creative projects and physical activity (Huang & Dietel, 2011). These opportunities provided by after-school programs have been linked to improved educational outcomes in school (American Youth Policy Forum, 2006; Anderson-Butcher, Newsome, & Ferrari, 2003).

One area of concern for today's students is that of academic achievement. Results from large standardized tests show that middle school students from the United States are struggling in core subjects like Mathematics and Reading. On the National Assessment of Educational Progress (NAEP), the largest nationally representative assessment of American students, achievement is measured by three achievement levels: Basic, Proficient, and Advanced. A score of Basic represents "partial mastery" of the knowledge and skills that are required of a particular grade level, while a Proficient score represents "solid academic performance"; and an Advanced score represents "superior performance" (National Center for Education Statistics, 2011). NAEP tests use the same testing procedures and materials throughout the county, allowing results to be used as a common metric for all states, regardless of their individual standardized test results. In 2011, only 35% of eighth grade students scored at or above Proficient in Mathematics on the National Assessment of Educational Progress (NAEP). Of those 35%, less than 10% demonstrated superior performance and scored at the Advanced achievement level. A similar trend was observed with the Reading assessment. In 2011, only 34% of eighth grade students taking the NAEP scored at or above Proficient in Reading, and of those, only 3% earned Advanced scores (National Center for Education Statistics, 2011). Although the percent of students scoring Proficient on these tests have risen a few percentage points since 2002 – 9% and 1% respectively – the slow improvement and low overall achievement levels reflect a need for major improvement on core subjects in the middle school grades.

School attendance is another area of concern, particularly for middle school students. The problem of missing school is extremely prevalent among today's students,

and not only are more students absent from school, but a large number of students are chronically absent from school. Chronic absenteeism does not have a standard definition among researchers and practitioners, but it can be thought of as missing at least 10% of school days during a given year (Balfanz & Byrnes, 2012). Since chronic absenteeism is not typically measured, it is difficult to know the exact numbers of students affected by it, but the data that do exist are very bleak. Six states that do record data on chronic absenteeism – Georgia, Florida, Maryland, Nebraska, Oregon, and Rhode Island – have estimates ranging from 6% to 23% of students (Balfanz & Byrnes, 2012). Absenteeism, chronic or otherwise, is a barrier to success in school because it often leads to disengagement from school, increased dropout rates, and a widening achievement gap at all grade levels (Balfanz & Byrnes, 2012). School attendance is crucial for school success; even missing what seems like a small amount of time – two weeks during the school year – can translate into a decrease in student achievement (Balfanz & Byrnes, 2012). Unfortunately, the disengagement from school that manifests as low attendance often begins to increase in the middle school grades, making it especially crucial to understand what may contribute to school absenteeism before students reach this age (Balfanz, Herzog, & Ivor, 2007).

Finally, another major problem inhibiting students from succeeding in school is that of negative student behavior. Student behavior can be measured by the number of disciplinary actions that schools take against students. These actions are taken in response to offenses such as physical attacks or fights; insubordination; distribution, possession, or use of alcohol or illegal drugs; and use or possession of a firearm, explosive device, or other weapon. According to the 2010 School Survey on Crime and Safety (Robers et al.,

2010), 46% of public schools took at least one disciplinary action against a student during the 2007-2008 school year. Of these, 31% took action in response to physical attacks, 21% took action for insubordination, 19% for drugs, 15% for weapons, 10% for alcohol, and 3% for firearms and/or explosives. The majority of actions taken against students included suspension for five days or more (76%), while less frequent action included transfers to specialized schools and removal from school with no services for the rest of the school year (19% and 5%, respectively). Unfortunately, this problem is not new. The 2010 School Survey on Crime and Safety also reports that there has been no measureable change in the percent of public schools taking disciplinary action or the number of disciplinary actions taken since 2003-2004 (Robers et al., 2010). It is essential for student behavior to improve in order for all students to be able to succeed in school. Not only has engaging in negative behavior been linked to lower levels of school engagement and school dropout, it can also predict the probability of students engaging in violent crime during puberty and early adulthood (Lee, 2011). Additionally, students who have been victimized by their peers are more likely to have low attendance rates and academic achievement and be prone to dropping out of school and engaging in violent behavior themselves (Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996; Nansel, Overpeck, Haynie, Ruan, & Scheidt, 2003; Ringwalt, Ennett, & Johnson, 2003).

Support from After-School Programs

Fortunately, there are programs available for students that aim to address these problems and promote positive academic, emotional, and social development. A large majority of these programs are held outside of the school day, particularly during the after-school hours. Research has shown that nearly 26% of all children and 30% of

middle school students are unsupervised after the school day ends, and these children are more likely to become victims of crime, drug and alcohol abusers, gang members, pregnant teens, and school dropouts (Afterschool Alliance & JCPenny Afterschool, 2009). After-school programs have been shown to benefit the participating students in the areas addressed above. Students participating in such programs have shown improvements in academics, attendance, and behavior (Arbreton, Bradshaw, Sheldon, & Pepper, 2009; Kauh, 2011; National Institute on Out-of-School Time, 2009).

Furthermore, studies investigating how often students participate in structured after-school programs have found links between more frequent participation and fewer discipline problems, higher academic achievement, and higher rates of school attendance (Huang & Dietel, 2011; Munoz, 2002). The aims of after-school programs are to provide additional support to students, especially those at-risk for negative behavior; however, it is essential for programs to be evaluated to determine whether these goals are being met.

A comprehensive assessment of any program enables developers to understand the relationship between participation in such a program and student outcomes such as achievement, attendance, and behavior. Program evaluations are a useful tool for providing targeted information to program developers related to the particular subset of students being provided services. Developers can use the information gained from evaluation to guide implementation in future years. In addition, developers and educators can learn from evaluations of similar programs to understand how to apply program principles to students within their own classrooms and schools.

Evaluation/Research Questions

The goal of the current evaluation study was to understand how student outcomes change, if at all, during their year of participation in a middle-school after-school program referred to throughout this report as “Program Afterschool.” The student outcomes of interest in this evaluation study were achievement (i.e., Mathematics and Language Arts grades), attendance (i.e., the number of school days absent), and behavior (i.e., the number of disciplinary actions taken against students). The research questions that guided the study were:

1. Do students experience improvements in achievement, attendance, and behavior during their participation in Program Afterschool?
2. Is there a relationship between the frequency with which students attended Program Afterschool and their progress on measures of achievement, attendance, and behavior after one year of participation?

To answer Research Question #1, achievement, attendance, and behavior measures were examined to look for differences across designated time periods: four grading quarters in 2011/12 for Mathematics and Language Arts achievement, and the two collection points at the end of 2010/11 and 2011/12 for both attendance and behavior. If statistically significant differences existed, further analysis was conducted to look for discernible linear or polynomial trends in student progress, for each of the variables of interest.

To answer Research Question #2, correlational analysis was conducted between the number of days that students attended Program Afterschool and change scores calculated for each of the variables of interest.

It is hoped that the answers to these research questions will provide valuable information to the Program Afterschool staff regarding student progress, as well as areas of improvement, within the context of participation in the program. This information may be used to guide future program development and implementation for Program Afterschool staff, program developers, and educators involved in other after-school programming for similar populations of middle school students.

Description of Program Afterschool

Program Afterschool is an after-school program designed to increase school engagement by enhancing academic, social, and behavioral competencies with hands-on practical applications and enrichment activities for students. Program Afterschool began in October 2010, and completed its second year of a four-year grant in May 2012.

Although the proposed evaluation study will focus solely on the students attending Program Afterschool for the first time in the 2011/12 school year, Program Afterschool serves approximately 200 sixth through eighth grade students each year from seven middle schools in two North Carolina school districts.

The main components of Program Afterschool are homework help, academic modules, educational field trips, character education lessons, and presentations by participating students. Program teachers and volunteers work with school staff to assist students with the homework assigned by classroom teachers, as well as with the projects and tests being conducted in classrooms. The academic curriculum for Program Afterschool is divided into three modules: Creative Arts, Civics, and Sustainable Energy. These modules are linked to the North Carolina Common Core State Standards and the North Carolina Essential Standards for learning. The Creative Arts module is taught by

team of artists, headed by an experienced visual artist, who provides opportunities for students to discover their creative side through videography, improvisation, African dance and storytelling, poetry, and photography. The Civics module exposes students to legal professionals and adults who were once involved in the judicial system but now lead productive and successful lives. Positive social skills and school involvement are emphasized through real-world activities that also help the students learn about the government and careers in the public sector. Finally, the Sustainable Energy module is used to introduce students to environmentally friendly, or “green,” technology, jobs, and activities that they can integrate into their daily lives.

Each module is taught for approximately two and a half months and includes hands-on activities and student projects that bring to life the lessons students learned during that module. Students develop and give presentations related to each content area to an audience of program and school staff, families, and peers. In addition to homework assistance and module lessons, program staff organize educational field trips for students and emphasize character education through weekly lessons.

The Program Afterschool program model is defined by student participation for approximately two hours after-school Monday through Friday. Mondays through Thursdays, approximately one hour is devoted to assisting students with homework from core subjects, while the rest of the time is set aside for teaching the module topic. On Fridays, students spend one hour on homework and the rest of the time participating in the character education projects and/or module-specific field trips.

Seven schools in two districts currently implement Program Afterschool. Staff members are trained to implement the program in the same way at each site. After-school

sessions are held within designated spaces at each school building so students are not prohibited from attending due to transportation issues. Students are required to sign into the program and are supervised by several staff members and volunteers during the sessions and field trips.

Theoretical Framework

The theoretical framework applied to this evaluation study was derived from the prolific body of research on Out of School Time. The way that students spend their time outside of school has been linked to their educational outcomes, particularly in the areas of academic achievement, behavior, future employment, and life skills (Peter, 2002). Researchers have found that in order to demonstrate positive outcomes, it is important for after-school activities to be structured and meaningful to students (Cooper et al., 1999; Fletcher et al., 2003; Gilman et al., 2004; Stewart, 2008). High quality, effective, structured out of school time programs are often defined by researchers as having the following components:

- A safe environment
- Supervision by competent non-parent adults
- A way to prevent youth from engaging in delinquent activities
- Lessons on general and specific skills, beliefs, and behaviors
- Opportunities to develop positive relationships with peers and mentors (Gilman et al., 2004; Simpkins, 2003).

The current evaluation study used Personal Investment Theory as a framework to gain insight on how participation in structured after-school activities can relate to positive student outcomes. Personal Investment Theory was proposed by Maehr (1984) as a way

to understand the underlying motivation behind a person's actions. The theory asserts that investments, such as time, effort, and money, which an individual devotes to an activity, are determined by how much meaning the activity holds for them. As people attach varying degrees of meaning to activities, the amount of investment that each person gives to such an activity will also vary. These investments provide the basis for personal motivation: when a person is invested in an activity, they have a source of motivation for positive returns.

By attending non-compulsory programs outside of school hours, students are implicitly acknowledging that the program holds some degree of meaning to them; however, the degree of meaningfulness can be expected to differ depending on the level of active participation in the program. Students invest their time and effort not only by attending the program, but also by participating in activities, projects, and interactions with staff members and other students. Although outside influences encouraging students to attend the program cannot be ignored, there is still a degree of investment placed on attendance, however reluctant it may be. Therefore, participating students have a source of motivation to increase the outcomes that serve as the focus of the after-school program.

Maehr's (1984) Personal Investment Theory is a multi-faceted theory that conceptualizes motivation using three factors: (1) an individual's sense of self, (2) an individual's goals relevant to the situation, and (3) the action possibilities within the situation.

An individual's sense of self is comprised of their personal feelings, perceptions, and beliefs about who they are. Maehr (1984) emphasized an individual's sense of ability

as a key factor in the development of their sense of self. Maehr theorized that when individuals see themselves as competent in a particular area, they are motivated to invest their time and energy into that area. Alternatively, those who see themselves as struggling in an area, like many students who attend after-school programs, often require extra encouragement and support to gain the motivation to invest. Program Afterschool strives to provide that extra support to students in order to increase their sense of competence, and therefore motivation, in areas such as school achievement, attendance, and behavior.

The second factor in Personal Investment Theory has to do with an individual's goals. Maehr (1984) used the term *goals* to mean the motivational focus of the activity. Simply put, a person's goals in a situation are the outcomes they hope to achieve for themselves. While an individual may not consciously set goals for a given situation, Maehr (1984) believed that they have an underlying knowledge of what they hope to achieve and can recognize these goals if given the proper cues. Maehr explained several types of achievement goals: performing well on a task, achieving or surpassing some socially defined standard, pleasing others by gaining social approval, and earning extrinsic rewards. Each of these goals can be observed through a student's participation in Program Afterschool. Students are presented with opportunities to perform well on tasks, surpass standards, please others, and earn rewards such as praise, good marks, and sometimes prizes. These opportunities serve as motivators for students to reach their goals, which influence the investment that they make to the program. In addition, by reaching the goal set forth within Program Afterschool--particularly related to homework completion and module success--participating students are able to build the skills used to reach social and academic goals in the future.

Finally, Maehr defined the final investment factor, action possibilities, as “the behavioral alternatives or options that a person perceives to be available to him or her in any given situation” (Maehr, 1984, p.124). A person ascertains which behaviors are available by their environment. Behaviors that are available are those which are most rewarded and valued by those around the individual. In Program Afterschool, the behaviors that are valued line up with the outcome variables of the proposed evaluation: high course grades, frequent school attendance, and low rates of problem behavior.

In summary, Personal Investment Theory implies that the more meaningful a task is to a student, the more they will invest their resources into it, thus increasing the potential for a rewarding outcome (Jordan & Nettles, 1999; Maehr, 1984). Program Afterschool aims to create meaningful activities for students by providing opportunities for hands-on tasks, group projects, and educational field trips. Therefore, the educational outcomes of participating students may be explained by the motivation they have to receive a return on their investment. It also stands to reason that students who attend Program Afterschool more frequently have an increased investment in achieving positive outcomes compared to students who invest a smaller amount of time and effort into the program. As students are motivated by three main factors – goals, beliefs regarding competency, and values placed on certain behaviors – the degree to which after-school programs provide students with an environment conducive to the factors may lead to improvements in students’ educational outcomes.

Logic Model

A key component in a successful program evaluation is to first develop a logic model to understand program activities and goals, as well as to guide evaluation

activities. A logic model can be described as a “systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program, the activities you plan, and the changes or results you hope to achieve” (W.K. Kellogg Foundation, 2004, p. 1). The following logic model was designed for the current evaluation study of Program Afterschool.

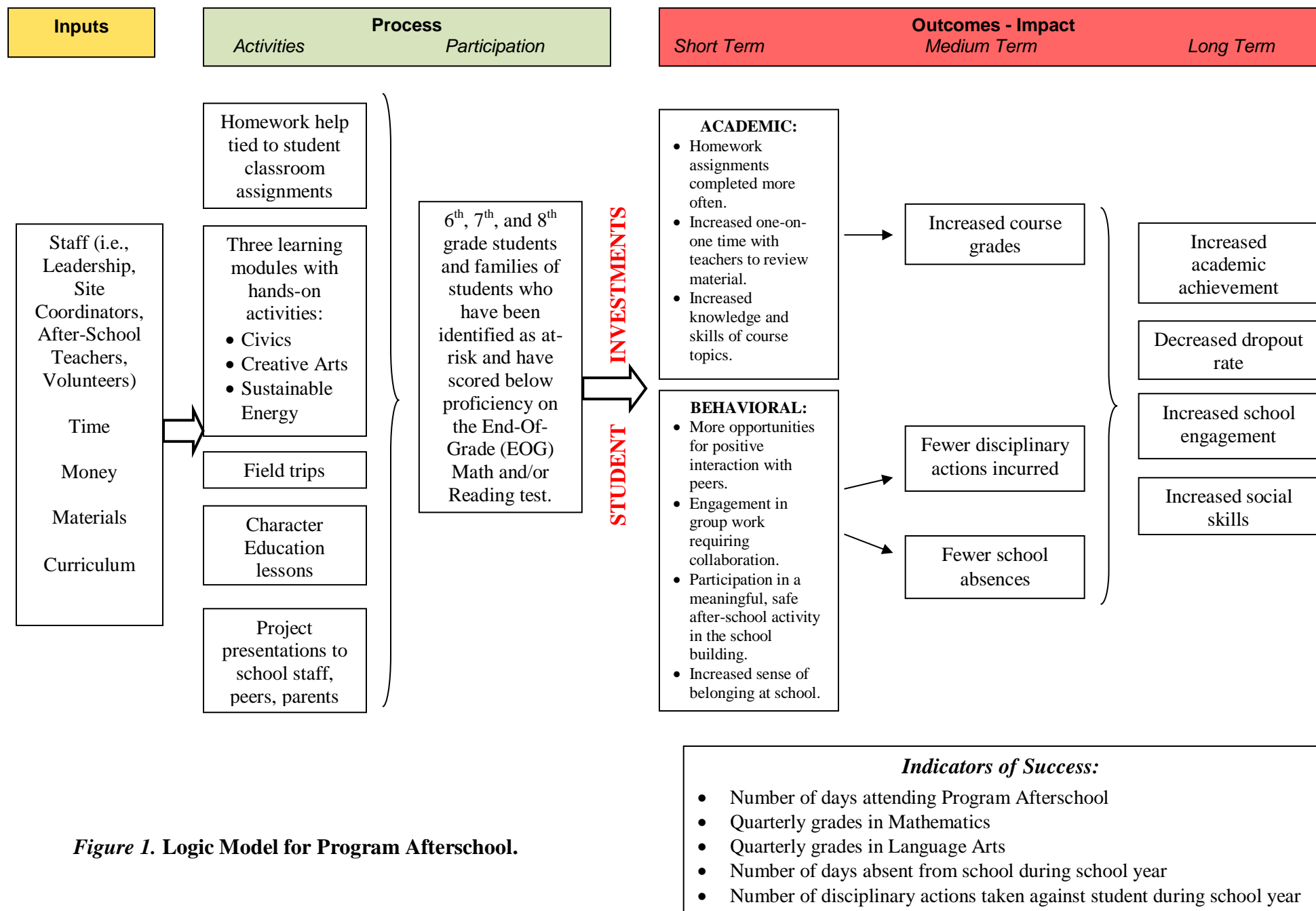


Figure 1. Logic Model for Program Afterschool.

There is no prescribed method for constructing a logic model; instead, logic models are intended to be tailored to each specific program to be evaluated (Taylor-Powell & Henert, 2008). They can be constructed as a collaborative exercise involving program staff and/or stakeholders, or individually developed by evaluators to better understand the program (Hamilton & Bronte-Tinkew, 2007). There are some common components to logic models, however, including:

- Inputs: This section includes the resources used by a program to achieve goals (Hamilton & Bronte-Tinkew, 2007; Taylor-Powell & Henert, 2008; W.K. Kellogg Foundation, 2004; Zaff & Redd, 2001). For Program Afterschool, the inputs are staff members, time, money, materials, and curriculum. In addition to staff members, time and money are needed for administrative needs associated with running the program, taking students on field trips, providing snacks, etc. Program staff provide students with materials needed to complete projects, and the three-module curriculum was designed specifically for Program Afterschool.
- Process: The process section includes both the activities resulting from the inputs, and the participants reached by the program (Hamilton & Bronte-Tinkew, 2007; Taylor-Powell & Henert, 2008; W.K. Kellogg Foundation, 2004; Zaff & Redd, 2001). Program Afterschool participants engage in homework help, learning modules, field trips, character education lessons, and presentations of projects at the end of each learning module. The participants in this evaluation study are at-risk students in the 6th-8th grades at seven middle schools in two school districts. Students are identified through low proficiency scores on the NC End-Of-Grade

test in Mathematics or Reading. Families of these students are also a targeted population for Program Afterschool.

- Outcomes: The outcomes, or impacts, of the program can be split into short-term, medium-term, and long-term goals that the program hopes to achieve (Hamilton & Bronte-Tinkew, 2007; Taylor-Powell & Henert, 2008; W.K. Kellogg Foundation, 2004; Zaff & Redd, 2001). Program Afterschool focuses on raising student outcomes in the areas of achievement, attendance, and behavior. To do this, there are first short-term outcomes identified that pave the way for the program goals. The short-term outcomes for Program Afterschool fall into two categories: academic and behavioral. The academic short-term outcomes include increased homework completion, increased one-on-one time spent with knowledgeable teachers, and increased knowledge and skills surrounding the topics students learn in classes. The behavioral short-term outcomes include increased opportunity for positive peer interaction and collaborative group work, participation in meaningful after-school activities in a safe location, and a sense of belonging at school and with school community members. Medium-term outcomes are the ones analyzed in the proposed evaluation: increased course grades, fewer disciplinary problems at school, and fewer school absences. Long-term outcomes that are the ultimate goal of Program Afterschool include increased academic achievement throughout a student's educational experience, increased school engagement, and increased social skills. These outcomes are characteristics that students can apply in situations through their lifetimes.

The Program Afterschool logic model illustrated in Figure 1 also includes the theoretical mediating factor for student outcomes, which is student investment. As discussed in the Theoretical Framework section of this proposal above, some researchers believe that student outcomes are a result of the investments that students put into their education as a result of attending after-school programs.

The logic model for the current evaluation study also includes the indicators for success. These are the specific variables that were analyzed to determine student outcomes. They include the number of days that students attended Program Afterschool in 2011/2012, students' quarterly course grades in Mathematics and Language Arts, the number of days that students were absent from school in 2011/2012, and the number of disciplinary actions taken against each student in 2011/2012.

CHAPTER 2

Literature Review

This chapter begins with a brief review of the research on student development at the middle school grades, particularly relating to student outcomes of achievement, attendance, and behavior. It then provides an overview of the research on after-school programs and each of these outcomes and includes sub-sections on at-risk students, the population of interest in the current evaluation study, and the frequency of student attendance in after-school programs and its relationship to student outcomes. Finally, there is a discussion of common program evaluation study designs and best practices learned from other large-scale studies of after-school programs similar to the one being examined in the current evaluation study. The chapter concludes with a summary of the literature review and the hypotheses to be tested in the current study.

Middle School Transition

Adolescence has long been a topic of interest for psychologists. The pre-teen ages are a period of important development in the lives of children, when they are advancing toward becoming the independent, self-aware, and competent adults of their future (Eccles, 1999). During this time period, many adolescents are also going through important educational changes as they advance from elementary school to middle school, and then from middle school to high school. Educational researchers have examined how these changes might affect adolescent students and their educational outcomes, and have

uncovered some troubling findings that point to the need for extra support for students in the middle school grades (Alspaugh, 1998; Burchinal et al., 2008; Heller et al., 2002; McIntosh et al., 2008; Mullins & Irvin, 2000; Theriot & Dupper, 2010; West & Schwerdt, 2012; Wigfield & Eccles, 1994).

Dubbed the “Middle School Plunge,” the transition from elementary school to middle school often coincides with a sharp decline in academic achievement, motivation, self-esteem, and self-efficacy, while at the same time students see an increase in emotional stress, negative attitudes toward school, self-consciousness, and behavioral problems (Alspaugh, 1998; Burchinal et al., 2008; Mullins & Irvin, 2000; West & Schwerdt, 2012; Wigfield & Eccles, 1994). Some of these issues point to the school environment, as students of the same age who do not transition to a separate middle school do not experience such an extreme change (Mullins & Irvin, 2000). Students with straight transitions from one elementary school to one middle school experience a smaller drop in academic achievement compared to students going from multiple elementary schools into one middle school (Alspaugh, 1998). Additionally, middle school policies toward discipline may be more punitive than in elementary schools, leading to higher percentages of students cited for infractions (Theriot & Dupper, 2010).

Unfortunately, the transition from middle school to high school seems to bring about a whole new set of barriers for students (Cohen & Smerdon, 2009; McIntosh et al., 2008). An article by Cohen and Smerdon (2009) highlighted the difficulties students face as they move to a new, often larger, and more disjointed environment where they may not have the close relationships with teachers and peers that they experienced in middle school. Although often more difficult for students struggling prior to high school, both

high- and low-achieving students can experience reductions in grade point averages and standardized test scores. This achievement loss, coupled with social and emotional challenges, may often lead students to the decision to drop out of high school (Cohen & Smerdon, 2009).

Researchers have noted that the negative changes in academics, attendance, and behavior often affect minority and at-risk students more deeply than others (Burchinal et al., 2008; Cohen & Smerdon, 2009; West & Schwerdt, 2012). Burchinal et al. (2008) conducted a longitudinal study of 74 African-American children from age 1 to their middle school years. Results from the study indicated that the transition to middle school was related to lower Mathematics scores on standardized tests and an increase in the association between social risk factors such as family poverty, single-parent homes, school poverty, and maternal depression and the extent to which students externalized their problems.

Fortunately, many schools offer after-school programs to provide a source of support for the many students struggling during the middle school years. The following section explores the literature regarding the apparent impact of these programs on student educational progress.

After-School Programs and Student Outcomes

Research on the relationship between participation in after-school programs and student outcomes such as achievement, attendance, and behavior has produced many positive, but also mixed, results. While many students have seen improvements in these outcomes during their participation period, others have seen no such results, and still others have seen less than positive progress (Afterschool Alliance, 2012; American

Youth Policy Forum, 2006; Apsler, 2009; Arbreton et al., 2009; Cosden, Morrison, Gutierrez, & Brown, 2004; De Kanter, 2001; Dynarski et al., 2003; Grolnick, Farkas, Sohmer, Michaels, & Valsiner, 2007; Huang & Dietel, 2011; Kauh, 2011; Lauer et al., 2006; Miller, 2003; Zief, Lauver, & Maynard, 2006). A review of the prolific body of literature is presented in relation to each of the outcomes of interest in the proposed evaluation study.

Achievement. Academic support and homework assistance are resources offered at many after-school programs. Students participating in these after-school programs have been shown to make academic gains on both standardized tests and course grades, have higher levels of improvement in school compared to their non-participating peers, and make progress on quality homework completion (Afterschool Alliance, 2012). A meta-analysis of research on after-school programs found that there tended to be positive effects of after-school programs on both Reading and Mathematics achievement, with particular improvement seen in secondary school students compared to elementary school students (Lauer et al., 2006). Furthermore, research on a state-funded middle-school after-school program with over 13,000 students in 200 sites demonstrated that students who participated for two years increased their Reading and Mathematics scores on a state standardized tests; the percentage of students in the second year of the program receiving passing grades in their subjects and completing work above grade level also increased (Miller, 2003). Miller (2003), in a review of the body of literature on after-school programs, noted positive links between participation and data analysis and writing skills, good study habits, productive use of free time, higher educational aspirations, improved attitude toward school, and greater feelings of belonging in the educational environment;

all factors which can motivate students to perform better in school. Interestingly, the improvements in attitude and motivation for participants in after-school programs often coincide with decreases in the same characteristics for students who do not attend programs after school (Miller, 2003).

Even in programs that are not focused on academic assistance, a link between participation and increased student achievement has been found (Afterschool Alliance, 2012; Cosden et al., 2004; Lauer et al., 2006). Cosden et al. (2004) reviewed the literature on extracurricular activities and found that students participating in things like sports, clubs, and arts activities were more likely to have higher achievement levels and less likely to drop out of school than students not participating in extracurricular activities. Researchers have hypothesized that this increase in academic achievement occurs even when activities are not geared toward academics because they increase feelings of school connectedness, self-esteem, and positive social networks. Others believe that after-school activities provide an incentive for students to attend school regularly, thus increasing their opportunities for learning during the school day (Afterschool Alliance, 2012).

Attendance. Various levels of increase in student attendance have been linked to participation in after-school programs. An evaluation of AfterZone, an afterschool program that provides a variety of activities for middle school students throughout the school year, found that participating middle school students had an absence rate that was 25% lower than their non-participating peers (Kauh, 2011). Also, a review of the literature conducted by Afterschool Alliance (2012) found that students participating in various after-school programs had about 10 fewer absences than non-participants, and had attendance rates that ranged from 3-18 more days compared to students who did not

attend an after-school program. One after-school program saw a 48% decrease in absences from students after they entered the program. An interesting finding of the review was that high school students who participated in an after-school program during 8th grade had consistent increases in school attendance throughout the 9th, 10th, and 11th grades (Afterschool Alliance, 2012).

Behavior. Students participating in after-school programs, when compared to students not participating, have been shown to have positive increases in behavior during and/or after program participation. The review of literature by Miller (2003) revealed positive outcomes related to after-school programs designed to reduce student involvement in negative behaviors. Specifically, students attending these programs have shown decreases in rates of illegal drug use and sales, illegal activities, and school dropout; at the same time, there have been increases in skills related to problem-solving and conflict resolution (Miller, 2003). The review by Afterschool Alliance (2012) also detailed findings of more positive behavior for students attending after-school programs. Teacher-reports of classroom behavior showed that students in a 21st Century Community Learning Center program had improvements in good classroom behavior, class participation, paying attention, and completing homework. Students in grades K-8 who participated in the Chicago After School All-Stars program also had 17% fewer suspensions after participating in the program. Moreover, as with attendance outcomes, students participating in one after-school program in 8th grade continued to have significant reductions in suspension rates while attending 9th grade (Afterschool Alliance, 2012).

At-risk students. Researchers in the field of after-school programs acknowledge that “those who need the most, benefit the most” (Miller, 2003, p.4). The positive outcomes in achievement, attendance, and behavior related to after-school participation seem to be especially strong among students who are struggling learners, have limited English proficiency, and are from ethnic minority groups, low-income families, and single-parent homes (Afterschool Alliance, 2012; Cosden et al., 2004; Lauer et al., 2006; Miller, 2003; Woodland, 2008). A review of studies on after-school programs for African-American males found that several types of programs may be particularly effective at increasing student outcomes for this group. These programs include: (1) extracurricular activities, which offer recreational, academic, art, mentoring, and other supplemental activities to students; (2) mentoring programs, which connect students with a positive, older role model; and (3) cultural rites of passage programs, which provide culture-specific interventions to adolescents as they transition to adulthood (Woodland, 2008). Other studies of after-school programs have concluded that one-on-one tutoring for at-risk students seemed to have the most positive effect on student achievement (Hock, Pulvers, Deshler, & Schumaker, 2001; Lauer et al., 2006). Miller (2003) hypothesized that at-risk students were likely to benefit from participating in after-school programs because they are most in need of the support offered by high-quality programs, and they are more unlikely to receive those supports outside of the after-school program compared to their peers.

Negative or no findings. However, not all studies of after-school programs have found positive student gains in educational outcomes (Dynarski et al., 2003; Lauer et al., 2006; Miller, 2003). In a national evaluation of the 21st Century Community Learning

Centers, participating middle school students had slightly higher Mathematics grades than non-participants, and both groups completed homework at the same rate. Participating students were also more likely to report using drugs and bullying other students (Dynarski et al., 2003). Other researchers who have encountered less than positive results have noted that both the features of the programs and the study methods used may provide explanations for the results (American Youth Policy Forum, 2006; Miller, 2003; Zief et al., 2006). Zief et al. (2006) noted that the research on improved outcomes was limited to quasi-experimental and non-experimental designs. Also, programs that are unstructured, poorly staffed, lacking well-trained and well-screened employees, and offered in inadequate facility space are often linked to negative or no outcomes for students (American Youth Policy Forum, 2006; Miller, 2003). Finally, when students do not attend consistently, progress is often not seen. One study found that only students participating at least 50% of the time had positive academic outcomes; students with lower levels of attendance saw no significant changes (Miller, 2003). It is also important to note that students identified as in need of the resources offered by after-school programs often have negative educational outcomes prior to beginning such a program; correlations between outcomes and program participation may reflect a selection bias rather than an attribute of the program itself.

Frequency of Participation in After-School Programs

While the overall literature on student outcomes in the context of after-school programs has been somewhat inconclusive, researchers seem to agree that the more students attend after-school programs, the better (Harvard Family Research Project, 2006; Huang & Dietel, 2011; Munoz, 2002; Riggs, 2006; Vandell, Reisner, & Pierce, 2007).

Riggs (2006) followed a group of immigrant Latino first- through sixth-grade students who attended a multi-site after-school program for varying periods of time. All participating students were considered at-risk and either performed below grade-level on academic tests, had difficulty following the rules in the classroom, or came from families with low involvement in the school they attended. The researcher used hierarchical linear regressions to understand the relationship between student attendance in the after-school program and student behavior and social skills, while controlling for factors such as students' pre-test scores, age, gender, acculturation level, and family functioning as reported by parents. Student behavior and social skills were measured by the Social Health Profile, through which classroom teachers rated students on social competence (e.g., temperamental, friendly) and behavioral issues (e.g., fights with others, steals). Results indicated that students who attended the program for more days were more likely to see a decrease in classroom behavior problems and an increase in their social competence skills on a teacher-reported Social Health Profile. The researcher hypothesized that these differences may be attributed to the increased exposure to the social skills curriculum by students who attended more frequently. In addition, students who attended the after-school program more frequently may have been able to avoid outside pressures to get involved in delinquent and anti-social behavior during the after-school hours. An interesting finding in this study was that, overall, after-school program participants did not see an increase in social competence and a decrease in behavior problems. Only after the researcher examined student outcomes in terms of frequency of program attendance did significant results emerge.

The results from a study of 35 after-school programs across eight states and various geographical regions concur with the research by Riggs (2006). Vandell et al. (2007) identified high-quality elementary and middle school after-school programs through a rating system that examined the supportive relationships between staff members and students, as well as the opportunities for students in academics, recreation, arts, and other enrichment areas. There were a total of 2,914 economically disadvantaged, minority students who participated in the two-year study, 1,118 of whom were middle school students. Of the middle school sample, about half of the students consistently attended one of the high-quality after-school programs, and one third of those students also regularly participated in other activities during the after-school hours. Researchers used a multiple imputation procedure to minimize bias related to missing data before conducting hierarchical linear modeling to determine the relationship between consistent student attendance in one, two or more, or no after-school programs. Students characterized as not consistently attending an after-school program may have sporadically attended a program, but consistently spent one to three days per week without adult supervision. Findings indicated that elementary and middle school students who consistently participated in one or more programs during the after-school hours had greater gains in academics compared to students who did not consistently attend structured programs. For middle school students, consistent participation in one or more after-school program was associated with increases of 12 percentile points on standardized Mathematics tests. These middle school students also had significant increases in self-reported study habits over the two year period, compared to students who did not consistently participate. Also, students with consistent participation in one or

more after-school programs saw a decrease in misconduct and drug and alcohol use compared to students who were consistently unsupervised after school.

Researchers make an important distinction that not only does the time spent in after-school programming matter, but the level of student engagement is also an important factor (Weiss, Little, & Bouffard, 2005). Whereas many researchers in the field of after-school programming use the terms *attend* and *participate* interchangeably, others believe that participation is an active process and attendance is merely a measure of how often a student is present (Weiss et al., 2005). Weiss et al. (2005) have proposed that participation is actually a combination of enrollment, attendance, and engagement, and that this distinction has been largely overlooked by researchers. Each component of the equation is necessary for student progress, but does not work alone. Enrollment, the act of getting students into the after-school programs, is often determined by recruitment strategies, family involvement, and/or cultural factors. Attendance is measured by the time students spend in the after-school program, and this is the most often used variable in research and evaluation studies of programs. Moreover, many researchers treat attendance as a binary variable and group students by those who attend and those who have not. Although attendance in this sense is crucial information, researchers often miss more detailed information such as how often (i.e., dosage), how many years (i.e. duration), how many activities (i.e., breadth), and level of concentration (i.e., depth) within a specified after-school program. Finally, engagement is the crucial component that is most often left out of research on after-school program participation. Research on engagement in classrooms points to both behaviors and emotions as playing a role in how involved students are. Engagement is tied to the students' motivation to attend a program,

as well as their cognitive and social involvement in the activities. A core set of program features have been identified to increase student engagement in after-school programs: a feeling of safety, relationships with caring adults, opportunities for leadership and socializing with peers, and high-quality learning experiences. True engagement in an after-school program is thought to be related to student progress, and it is important for researchers to include student engagement in addition to attendance when studying the effects of a program.

One way to learn from past research on after-school program attendance and study outcomes is to look for best practices in common studies. The following section will explore the notion of best practice research and look at three large-scale evaluations of after-school programs similar to Program Afterschool.

Best Practice Research of After-School Program Evaluations

Program evaluators often conduct best practice research as part of an evaluation. Best practice research is highly sought after by program developers and policy makers, and the term *best practices* is often interchanged with *lessons learned* and *benchmarking* (Patton, 2001). However, some evaluators have raised concerns regarding the information that is gathered under the guise of these types of studies (Patton, 2001). Oftentimes, the term *best practices* can imply that there is only one way of implementing a program, and that it is the best and only way. In order to conduct best practice research using a systems framework, it is important that evaluators and researchers avoid prescribing one practice onto what may be very diverse environments. Patton (2001) suggested that evaluators and consumers use more inclusive terms such as *better practices* or *effective practices* and understand the context of the programs studied in order to identify principles that can

guide practice of similar programs. This type of research will enable evaluators and stakeholders to learn of methods used in evaluations of similar programs, identify the context in which the programs operate, and gain a comprehensive understanding of the outcomes associated with similar programs.

As part of this evaluation study, several large-scale after-school program evaluations were identified to examine for effective practices. As context is crucial, the program evaluation methods and results are discussed along with a discussion of the program environment and population served. The highlighted research is from a national evaluation of the 21st Century Community Learning Centers, a state-wide evaluation of New Jersey After 3, and a city-wide evaluation of Beacon Community Centers Middle School Initiative in New York City. These evaluations were chosen because they serve students similar to those in Program Afterschool, and the different scales may provide a diverse set of evaluation methods from which to learn.

21st Century Community Learning Centers. A three-year, national evaluation of the U.S. Department of Education's 21st Century Community Learning Centers was conducted to understand the characteristics of the programs and the impact on student outcomes (Dynarski et al., 2003). The 21st Century Community Learning Centers program was created in 1994 by the U.S. government in order to provide academic, enrichment, and recreational opportunities to students during the hours after the regular school day. More than one billion dollars in funds are awarded to over 7,000 schools to implement the program, particularly to low-performing schools in high-poverty areas.

Evaluators conducted an implementation study to gather descriptive information on the 21st Century Community Learning Center programs and an impact study to

determine the effects of participation on student outcomes. The national evaluation also included both an elementary school study and a middle school study; however, only the middle school study will be used in this best practices review because Program Afterschool only provides services to middle school students. In addition, this review focuses on the first year of the middle school study, as students in Program Afterschool have also completed only one year of the program.

The middle school evaluation study used a matched comparison design to compare a nationally representative sample of 21st Century Community Learning Center program participants and similar students who did not participate in the program. Sixty-two randomly selected programs in their first, second, or third year of operation participated in the evaluation, and a total of 4,400 middle school students-both participants and matched non-participants- were included in the sample. There were two data collection points in the first year of the impact study: baseline in the fall of Year 1 (2000) and the first follow-up in the spring of Year 1 (2001). In addition, implementation data were collected through at least one site visit to each of the participating programs during the school year. During these two to four day visits, evaluators conducted interviews with staff members at participating programs, schools, districts, and community organizations; surveyed project directors, principals, program coordinators, program staff members, and participating students; and gathered program attendance records. Also, evaluators surveyed 427 non-participants at six program sites to understand their reasons for not attending.

Findings from the implementation study showed that the majority of programs sites were offering academic, enrichment, and recreation activities as prescribed by the

grant program. Homework help was the most common academic activity offered at 89% of sites and was often provided by certified teachers. Unfortunately, approximately 60% of student responding to the surveys indicated that homework was not completed during program hours, and site visitors observed students doing other activities during homework help sessions. Programs also offered enrichment activities several times a week, and these included mentoring, conflict resolution, role modeling, and creative arts. Recreation activities such as time in the gym, board games, and computers were also available to students daily. Programs were usually offered four or five days per week for two and a half hours; however, students attended an average of less than two days per week. Student attendance may have been inhibited by the abundance of other organized activities available to students after school, or because many of the program attendance policies allowed students to participate on a drop-in basis. Many students who did not attend 21st Century Community Learning Center programs felt that the programs were just for students who needed extra help in school, and said they would rather participate in other school activities of interest to them or hang out with friends after school.

The impact evaluation revealed mixed effects of program participation on middle school students. Students participating in 21st Century Community Learning Center programs had slightly higher Mathematics grades and slightly higher school attendance than similar non-participants, but about the same grades in all other subjects. Both participants and non-participants had the same rate of homework completion, but teachers reported that the participating students' homework was more satisfactory. It should be noted that it is unclear whether or not teachers knew which students were participating in the program. Participating students did seem more engaged in school, with teachers

reporting that these students were more likely to pay attention, participate, and volunteer in class. Unfortunately, overall, behavioral data collected from programs paint a rather grim picture of participating students. Programs did not seem to increase students' feelings of safety after school, and participating students were even more likely than nonparticipants to report drug use and bullying. Discipline data were not related to whether or not students participated in a 21st Century Community Learning Center program, but non-program participants were more likely to rate their conflict resolution skills as *good* or *excellent*. Finally, analysis on frequency of program participation and student outcomes showed no difference between students who attended the programs frequently and those who seldom attended.

New Jersey After 3. A three-year state-wide evaluation of the New Jersey After 3 network of after-school programs was conducted to better understand program goals, staff and participant characteristics, activities offered, and short-term program and student outcomes. Like the 21st Century Community Learning Center program evaluation, only the first year of the New Jersey After 3 program evaluation is discussed in this section in order to provide information relevant to the current evaluation study of Program Afterschool.

The New Jersey After 3 initiative has created a comprehensive state-wide network of high-quality after-school programs to provide a safe environment to elementary and middle school students while providing opportunities for academic and social development (Kim, Miller, Reisner, & Walking Eagle, 2006). During the first year of the evaluation, there were 11,108 students in grades K-8 participating in the programs. Of

these participants, a little less than a third were in middle school and about 50% were eligible to receive free or reduced lunch.

The program evaluation used a nested sampling design to collect different levels of data from New Jersey After 3 program sites that were either in the first or second year of existence. For all program sites, evaluators collected descriptive data from the program's management information system regarding participant characteristics and attendance, as well as survey data from site coordinators and executive directors. Next, a participant survey was administered to students in grades 3-8 attending programs in the second year of operation only. Finally, 10 of these second year programs were randomly selected to complete a teacher survey (for grades 3-8), site visits and observations, and interviews and focus groups. Evaluators chose this method of data collection in order to progressively gain more detailed information from a subset of New Jersey After 3 programs, and planned to use the data to make informed estimates concerning overall program outcomes. From a practical viewpoint, the nested sampling strategy also lessened the costs associated with extensive data collection, management, and analysis. Evaluators did not note whether or not the nested design was taken into account in the analysis, nor did they note whether the nesting design impacted findings.

Through site visits and observations, evaluators were able to assess student engagement in activities, staff-student relationships, and instructional strategies. Surveys collected information regarding program goals, activities, and schedules; staff and participant recruitment; needs of participating students; student- and teacher-reported attitudes, skills, and behaviors of participants; communication between schools, communities, and families; and program management, including cost, resources, and

partners. By administering surveys to different groups of stakeholders, program evaluators were able to identify areas of agreement or disparity regarding program operations and participant outcomes. Both quantitative and qualitative data from the surveys and interviews were presented in evaluation reports.

Results from the evaluation indicated that New Jersey After 3 programs offered many activities geared toward development of students' academic, artistic, social, health, and civic abilities. Homework help, educational games, reading/writing practice, creative arts projects, and recreational activities were offered at nearly all of the program sites. Students reported feeling supported by staff members, and although parent involvement was limited, staff members reported making contact with parents at least once per month. Program goals of providing a safe place to spend the after-school hours in areas where there was none and creating a sustainable program structure appeared to have been met. Student reported being pleased with the programs they attended, and felt that the after-school program helped them increase achievement levels in school. Teachers surveyed also agreed that participating students were performing at or above grade-level expectations, but expressed some concern regarding student motivation. Low-income students were not rated as highly on academic skills compared to other students in the programs, indicating a need to build these skills in this specific population. Unfortunately, no student-level data were collected from schools and student achievement was only measured by student and teacher responses to survey questions.

Student attendance in the after-school program was also a focus of the New Jersey After 3 evaluation. Students were grouped into one of three participation levels: (1) *highly active*, if they attended sessions for at least 80 days and 80% of the time in which

they were enrolled in the program; (2) *active*, if they attended for at least 60 days and 60% of the time they were enrolled; and (3) *non-active*, if they attended less than 60 days or less than 60% of the time they were enrolled. The analysis revealed that, on average, students attended for about 73% of the days they were enrolled, which evaluators judged to be a high attendance rate among after-school programs nationally. Student categorized as *highly active* had significantly higher scores on a self-reported scale of perceived academic benefits of the after-school program compared to students who attended less frequently. It does not appear that further analysis was conducted on student program attendance during the first year of the evaluation.

Beacon Community Center Middle School Initiative. Similar to the other after-school evaluations profiled in this section, there was a three-year evaluation conducted of the Beacon Community Center Middle School Initiative. The evaluation was designed to inform the funding agency about program implementation, characteristics of participants, participant attendance, whether or not the initiative is meeting the needs of students, and the context through which the initiative is most and least effective in improving student outcomes (LaFleur, Russell, Scott, & Reisner, 2009).

The Beacon Community Center Middle School Initiative was created by the New York Department of Youth and Community Development in 2007 as an addition to the Beacon Community Center model of community-based service provision to needy neighborhoods. There are 80 Beacon Centers located in New York City, which are typically open during the school year from early afternoon to evening during the week and all day on Saturdays. They are also open all day during the summer weekdays. Beacon Centers are housed within public school buildings, some with established or joint

after-school programs, and some lacking such opportunities for students. Centers are open to community members of all ages in need of services. The Middle School Initiative was specifically developed to provide high-quality after-school programming for students in grades 5-8. The Initiative's activities fall into six core areas of positive youth development: academic enhancement, life skills, career awareness/school to work transition, civic engagement/community building, recreation/health and fitness, and culture/art. These focus areas align with many other after-school programs, including Program Afterschool.

During the first year of the evaluation, conducted during the first year of program implementation, evaluators conducted an implementation study to gain a deeper understanding of whether the characteristics of the programs and the participants met Initiative goals, as well as the participation pattern among students. Evaluators conducted several types of data collection activities with the 80 Centers, including surveys from program directors, participant enrollment and demographic data from the online data management system, telephone interviews with a sample of ten program directors, and site visits with a different sample of ten Beacon Centers. An outcome evaluation was planned for later years.

Results from the first year of the evaluation provided a snapshot of the overall Middle School Initiative model. The after-school programs provided both school year and summer activities to students in need, including recreational, academic, and cultural/arts related activities. The evaluation found that participants most often engaged in recreational activities during after-school sessions. However, activities from each of the core areas were offered at almost all Initiative sites during the school year, with all sites

providing academic and recreation activities, and 79% of sites providing career awareness activities. During the summer months, only one fourth of Initiative sites offered activities in all core areas; instead, the sites tended to emphasize recreation, health, and fitness related activities. Academic activities to prepare students for the upcoming school year were still prominent, however, and offered in 85% of the summer programs.

Overall, the Beacon Community Centers Middle School Initiative programs served an average of 182 students during the school year and 93 during the summer, for a total of 14,575 middle school students during the school year and 7,323 during the summer. This was more than the goal set by the funding agency. Participants attended for an average of 208 hours during the school year, which was slightly less than the programmatic goal of 216 hours. Students were recruited to the programs through peer, teacher, and counselor referrals, and initiatives that were housed in schools with existing after-school programs appeared to have higher average enrollments than initiatives in schools without such an existing program. Demographic analysis revealed that the majority of students participating in the program were of an ethnic minority group (i.e., Latino or African American) and almost all of them were proficient in the English Language.

Beacon Community Centers employed an average of 14 staff members in the Middle School Initiative at each Center. Evaluation findings indicated that many staff members were former participants in Beacon Community Center programs. Sixty one percent of sites had a master teacher or education specialist on staff. Staff members were also offered a variety of opportunities for professional development, mainly receiving

training on classroom management techniques and developmentally appropriate practices for working with middle school children. Findings from the evaluation also revealed regular communications between Initiative staff members and participants' families through phone calls and face-to-face meetings. These communications were aimed at keeping family informed, recruiting participants, and asking for family input on students.

Evaluators concluded that although Beacon Community Centers faced challenges in implementing a comprehensive Middle School Initiative after-school program for youth, this goal seems to have been successfully accomplished during the first year. The evaluation report concluded with some recommendations from evaluators on how the Department of Youth and Community Development can work with the Beacon Community Centers to improve implementation of the Middle School Initiative and facilitate further evaluation efforts. These recommendations included measuring student participation in each of the core activities in order to estimate student engagement in after-school sessions; ensuring accurate and up-to-date record keeping; providing guidance to Initiative sites on how to balance regular programming with middle school programming; and reviewing the decision to place Beacon Community Centers within middle schools with existing after-school programs.

Summary of Literature Review

The preceding review of the literature discussed the unique challenges to achievement, attendance, and behavior faced by middle school students as they transition from elementary school, to high school, and throughout adolescence. Fortunately, there is evidence that high-quality after-school programs are able to provide support to students and assist them in succeeding in these areas. Especially for at-risk students, who are most

vulnerable to the declines in educational outcomes during this transitional period, the majority of studies on after-school programs have linked participation to positive achievement, attendance, and behavioral outcomes. The greater the amount of time that students spend participating in after-school activities has also been linked to stronger educational outcomes, provided that students are actively engaged in the programs. Finally, a best practices review of evaluations from three large-scale after-school programs serving middle school students provides some guidance on both the context of these programs as well as the different methods that have been used to evaluate them.

Hypotheses

The hypotheses for this evaluation study were that student outcomes would positively and significantly improve during the year of program participation, and that the number of days that students attend Program Afterschool would be positively associated with student achievement and school attendance, and negatively associated behavioral issues.

CHAPTER 3

Methods

This chapter begins with a discussion of the process of program evaluation, including the steps and standards contained in the general evaluation framework. Next, the current evaluation study design is presented along with a discussion of issues surrounding the reliability and validity of such a design. Afterwards, the author describes the sample, dependent variables, and analysis plan used in the current study of Program Afterschool.

Program Evaluation

Programs are designed to increase positive outcomes for participants, but without indicators of success, it is impossible to determine whether or not participants have benefited from the services provided. Engaging in a process of evaluation is a useful tool to gain understanding of the impacts of a program. Prior to conducting an evaluation, evaluators need to develop a framework through which to operate. This framework might include steps to follow and standards for conducting quality evaluations. Figure 2 provides an example of an evaluation framework that contains both steps and standards.

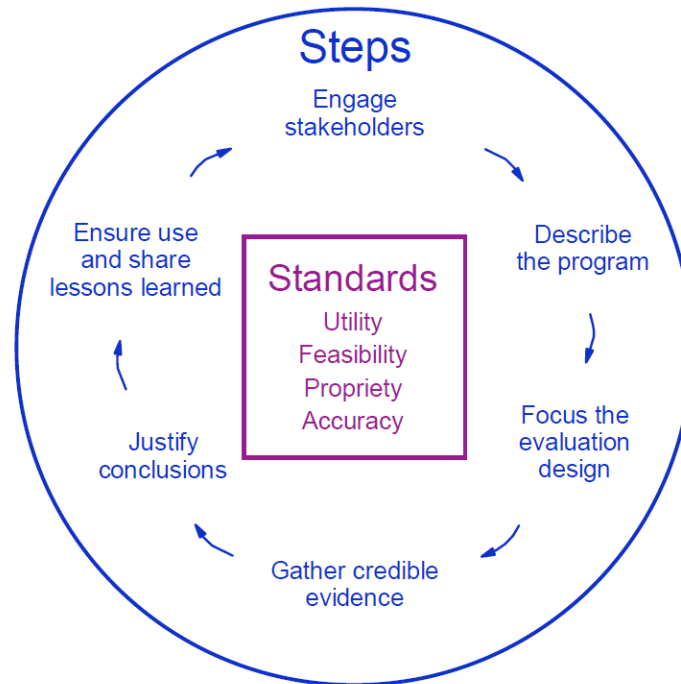


Figure 2. Framework for Program Evaluation. Source: Centers for Disease Control and Prevention. (1999). Framework for program evaluation in public health. Morbidity and Mortality Weekly Report, 48(11), 1-40.

The current evaluation study followed a slightly modified version of the evaluation framework presented above. It began by describing the Program, which included the goals, activities, resources, context, and expected outcomes of Program Afterschool. A useful tool in describing a program and guiding evaluation efforts is a logic model. Logic models are a visual representation of the program components, program outcomes, expected impacts, and the relationships between these things (W.K. Kellogg Foundation, 2004). A logic model specific to this study of Program Afterschool was presented in the previous section.

The next step in this evaluation framework is Focus the Evaluation Design. To do so, evaluators need to identify the purpose, questions, and methods driving the evaluation. This evaluation was an outcome evaluation, and the purpose, research questions, and methods were focused on understanding the apparent impact of Program

Afterschool on participating students. Because the goals of the program evaluated are to support students in the areas of academic achievement, school attendance, and behavior, these outcomes were chosen for the evaluation study.

Next, Gathering Credible Evidence was performed by using an existing dataset of student-level data containing the identified indicators of the student outcomes: quarterly grades in Mathematics and Language Arts; attendance records; and detention and suspension records for all students participating in the program for the first time during the 2011/12 school year.

After the evidence was gathered, conclusions were justified by analyzing the data, looking for trends in student outcomes, interpreting the results in the context of the program environment and demographics of the students being served, and ultimately making judgments regarding the significance of the program for participating students. These sub-steps are generally accepted activities within the above framework (Centers for Disease Control and Prevention, 1999). Additionally, the current study went a step further by discussing how the results and lessons learned may be generalized beyond Program Afterschool.

The final steps detailed in the evaluation framework calls for ensuring that results are used in decisions regarding program implementation, sharing lessons learned while conducting the evaluation, and engaging stakeholders. As this is a Master's thesis and not a typical evaluation, these steps were not completed during the study. However, the author will provide a copy of this evaluation study to the leadership of Program Afterschool to disseminate at their discretion. The goal of any evaluation is to uncover useful information for a program relating to their specific goals, and it is hoped that by

providing the results of the current study, the leadership of Program Afterschool is able to better understand the reach of their services relating to desired student outcomes.

As an evaluation framework is cyclical, each of steps serves to inform the others. The current study began with describing the Program, but typically evaluators begin by engaging stakeholders. Stakeholders are the vital people involved in the program, and can include leadership, staff, participants, and members of the larger community.

In addition to the steps involved in conducting a program evaluation, this evaluation framework incorporates a set of 30 standards that the Joint Committee on Standards for Educational Evaluation (JCSEE) developed to assess the quality of evaluations of educational programs. The JCSEE was founded in 1975 as a coalition of professional associations concerned with evaluation quality, and the standards developed have been grouped into four major categories: Utility, Feasibility, Propriety, and Accuracy (Yarbrough & Joint Committee on Standards for Educational Evaluation, 2011). These standards aim to:

- ensure that evaluation products meet the unique needs of the programs being evaluated, taking stakeholders, values, timelines, and potential consequences into account (Utility);
- increase evaluation effectiveness and efficacy by employing practical and resourceful evaluations (Feasibility);
- guarantee that ethical practices are followed, results are non-biased, and conflicts of interests are revealed (Propriety); and
- promote the veracity and dependability of evaluation representations, findings, and generalizations (Accuracy).

In this evaluation study, the standards were applied by fully understanding the goals of the program being evaluated (Utility); creating a program-specific logic model that guided the evaluation by relating program activities, expected outcomes, and program impacts (Utility and Feasibility); using a de-identified, pre-existing dataset that was approved by the Institutional Review Board (Propriety); and clearly presenting the variables being studied, utilizing technically appropriate methods of analyses, and reporting results in full (Accuracy).

Common Program Evaluation Study Designs

As with general research, there are several types of study designs that can be employed when conducting a program evaluation. Some of the more common designs used in outcome evaluations are:

- True Experimental Studies. The most highly regarded type of true experimental design is the Randomized Controlled Trial (RCT), in which participants are randomly assigned to receive an intervention (i.e., treatment group) or not (i.e., control group). Random assignment allows for the assumption that groups are equivalent to one another before receiving or not receiving the intervention; leading to stronger causal inferences regarding the outcomes of the treatment group in relation to the control group (Shadish, Cook, & Campbell, 2001). While RCTs are known as the *gold standard* of research, they can be costly and often difficult to ethically and logistically implement within an educational setting.
- Quasi-Experimental Studies. Quasi-experimental studies have been described by Stanley and Campbell (1963), and are similar to experimental studies with the exception of random assignment to a particular group. When using a quasi-

experimental design, evaluators and researchers may choose to include a comparison group or not. If including a comparison group, researchers may choose the matched comparison group design, where program participants are statistically matched to corresponding non-participants on one or several pre-selected characteristics. If having a comparison group is not deemed possible, researchers may choose to implement the one-group pretest-posttest design, in which program participants are essentially compared to their outcomes prior to receiving the intervention (U.S. Government Accountability Office, 2012). A pretest-posttest design is a longitudinal design, in which data are collected from program participants at two time points. Some researchers make a distinction between two types of longitudinal designs: repeated measures and time-series. Although there is no formal agreement on this distinction, generally a repeated measures design is one that has only a few data collection points, while time-series designs are thought to have many of these points (Trochim, 2006). Trochim (2006) notes that the term time-series is often used to describe studies with at least 20 data collection points. The current evaluation study used both a one-group pretest-posttest design and a longitudinal repeated measures design, which are discussed in more detail below.

- Case Studies. Case studies are used by evaluators and researchers to explore particular interventions in more detail than is usually generated through the use of other types of designs. Qualitative, descriptive information is often gathered from participants and relevant stakeholders through the use of ethnographies,

interviews, focus groups, and/or surveys (U.S. Government Accountability Office, 2012).

The current evaluation study was implemented using both a one-group pretest-posttest design and a repeated measures design to understand the progress of students participating in Program Afterschool.

Current Evaluation Study Design

The one-group pretest-posttest design was applied to the analysis of attendance and behavior outcomes, because there are two time periods from which data were collected. The longitudinal repeated measures design was applied to the analysis of achievement outcomes due to the four data collection points at each grading quarter in one school year. Pretest-posttest and longitudinal repeated measures designs are widely used in the field of program evaluation, due to the ease of collecting data from participants, the ethical issues resulting from random assignment to an often much-needed educational program for adolescents, and the useful information that can be gleaned from seeing progress over time within the context of a program. However, because of the absence of random assignment and a comparison group, there are some issues that are inherent to studies using these types of designs. These issues involve both the reliability and validity of the data gathered from the study.

Reliability. Reliability refers to the consistency, stability, and trustworthiness of measurements on a given assessment over time (Worthen, Borg, & White, 1993). In the context of the proposed evaluation study of Program Afterschool, it is vital that the outcome measures produce reliable results at all data collection points. Reliable measurements enable stakeholders to make sound decisions with the information

garnered from the evaluation study. Although there are many methods of estimating reliability—including test-retest, split-half, and internal consistency—reliability was not a significant concern in the current evaluation study. The author acknowledges the possibility of inconsistency in which school officials assigned grades or recorded attendance and discipline issues for the study, but the level of inconsistency would not likely pose a threat to reliability.

Design Validity. There are some known issues around validity that arise when employing quasi-experimental designs like the one-group pretest-posttest and repeated measures methods that were used in this evaluation study. Campbell and Stanley (1963) provided a detailed discussion of the threats to both internal and external validity that can occur when using these quasi-experimental methods.

Internal validity refers to the degree to which changes in student outcomes can be causally linked to their participation in Program Afterschool. Of the factors identified by Campbell and Stanley (1963), history, maturation, and instrumentation are of particular concern when implementing the type of quasi-experimental design used in the proposed evaluation study. History refers to the unknown events that occur between data collection points and may have an impact on participants' scores or outcomes. However, Campbell and Stanley (1963) noted that in order for the effect of an extraneous event to become a plausible hypothesis for changes in student outcomes, the event should involve most of the students participating in the study. Maturation, another threat to internal validity, refers to the internal changes that naturally take place within the individuals participating in the study and may have an impact on outcomes, independent of the intervention (Campbell & Stanley, 1963). In this evaluation study, maturation is particularly a concern

due to the developmental changes that are known to occur during adolescence. Finally, instrumentation poses a threat to internal validity in the proposed evaluation study because of the methods used to collect the student data. Instrumentation, or instrument decay, refers to any changes in the data collection tool between the data collection periods. In terms of student outcomes, the criteria with which teachers assigned grades or school officials counted absences or disciplinary offenses may have changed from 2010 to 2011. However small those changes may have been, they have the possibility of affecting student outcomes independent of student participation in Program Afterschool. While these threats do not negate the results of this study, they do impose limitations on the inferences that can be made regarding causal effects of Program Afterschool on student outcomes. For this reason, it is important that readers refrain from confidently attributing any results to student participation in Program Afterschool. This evaluation study merely aims to understand student progress within the context of participation, as well as the relationship between the frequency of participation and student outcomes. More confident inferences regarding cause and effect could be gained for additional quasi-experimental studies of the program or by experimental research designs. Such designs would be recommended for future evaluations of Program Afterschool if possible.

External validity is another important factor to take into consideration when conducting any type of study. External validity refers to the degree to which results of the study can be generalized to other persons, places, times, and levels of internal validity (Shadish et al., 2001). Internal and external validity are often at odds with one another because as researchers are able to increase control over the variables that threaten internal

validity, the study environment can become less similar to the settings to which the researcher wishes to generalize. Whereas quasi-experimental studies tend to minimize threats to external validity because they take place in a more natural setting, it is important to be aware that because of the lack of random selection of the sample participants from a population, it will be more difficult to generalize the results to an entire population.

Due to the non-random nature of the sampling plan used in this study, there are some limitations regarding the degree to which results can be generalized to all after-school program participants. Results may be able to inform the development and evaluation of similar after-school programs serving a population of at-risk, middle school students, but it is important for program developers to understand the unique needs of the students they wish to serve. The main goal of this evaluation study was to provide Program Afterschool leadership with information that they can use to compare student outcomes to program goals and subsequently make any necessary changes to the program structure or to the goals they hope to achieve.

Sample

The data utilized in this study came from existing, de-identified student-level data that was gathered for Program Afterschool. Data from students participating in Program Afterschool for the first time during the 2011/12 school year were collected by on-site program staff and school data coordinators who had access to student records via the North Carolina Window of Information on Student Education (NC WISE) reporting system. A total of 132 sixth ($n = 86$), seventh ($n = 21$), and eighth ($n = 25$) grade students at seven different middle schools were included in the sample. The number of students at

each participating school ranged from 12 to 23, with an average of 19 students at each site.

Dependent Variables

The dependent variables identified in the study are (1) academic achievement, (2) school attendance, and (3) student behavior. The research highlighted in the review of the literature focused on these three outcomes as vital to predicting school success.

Academic Achievement. In this study, student academic achievement was measured by teacher-assigned grades in Mathematics and Language Arts. Mathematics and Language Arts were chosen for this measure over other subjects because of their relation to the topics included on the End-Of-Grade standardized tests. Students are assigned categorical grades of A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, or F during each of the four quarters in a school year. These grades were converted to the following numerical scale for analysis purposes: 1=F, 2=D-, 3=D, 4=D+, 5=C-, 6=C, 7=C+, 8=B-, 9=B, 10=B+, 11=A-, 12=A, 13=A+. Only students with grades available for all quarters in 2011/12 were included in the analysis. In the sample, Mathematics grades from all quarters were available for 110 students, and Language Arts grades from all quarters were available for 108 students.

Attendance. In this evaluation study, student attendance was measured by the number of days absent from school, during both the 2010/11 school year (i.e., before participation) and the 2011/12 school year (i.e., after participation). Because research has shown that absenteeism is associated with lower levels of achievement and higher levels of psychological, social, and educational maladjustment, all instances of absenteeism, including both excused and unexcused absences, were included in the analysis (Moonie

et al., 2006). Only students with attendance data from both the year before program participation and the year of program participation were included in the analysis. From the sample, 106 students were included in the attendance analysis.

Behavior. As a measure of student behavior, this study included the number of disciplinary actions that the school had recorded for each student in the sample during both the 2010/11 and 2011/12 school years. Disciplinary actions are given for behaviors such as disrupting class, fighting, being disrespectful of faculty/staff, and skipping class, among others. There are different types of disciplinary actions, including detention, in-school and out-of-school suspension, and restriction of school privileges; any of these actions may have been included in the data. Only students with behavior data from both the year before program participation and the year of program participation were included in the analysis. From the sample, 88 students were included in the behavior analysis.

Data Analysis

To address the research questions and attempt to understand how student outcomes changed during their year of participation in Program Afterschool, a series of analyses were completed using the Mathematics achievement, Language Arts achievement, School Attendance, and Student Behavior data. All analyses were performed in SPSS Version 18 unless otherwise noted.

To answer Research Question #1 and determine whether there was student progress in the areas of achievement, attendance, and behavior, frequency distributions and descriptive statistics were computed for each of the dependent variables to provide information such as: mean, median, standard deviation, minimum value, maximum value, and range. Change scores were then created for each student on each of the variables by

calculating the difference between the outcome measured at the first data collection point and the last data collection point. For Mathematics and Language Arts achievement, this meant subtracting the students' numerical grade from the 1st quarter in 2011/12 from their grade earned in the 4th quarter in 2011/12 (i.e., $Q4 - Q1 = \text{change in grade}$). For school attendance, change scores were calculated by subtracting the number of days absent from school in 2010/11 from the number of days absent from school in 2011/12 (i.e., $2011/12 \text{ school year} - 2010/11 \text{ school year} = \text{change in attendance}$). A similar process was followed for behavior, with the change score being the difference between the number of disciplinary actions recorded in 2010/11 and the number of disciplinary actions recorded in 2011/12 (i.e., $2011/2012 \text{ school year} - 2010/2011 \text{ school year} = \text{change in behavior}$). Change scores provided an indication of the overall progress of students over the course of program participation.

Next, one-way ANOVAs were run on the average Mathematics and Language Arts grade per quarter to look for statistically significant differences in student achievement over the year of program participation. Because participating students are nested within the different school sites, they are not fully independent cases and typical analysis methods tend to underestimate standard errors and therefore can lead to Type I errors (Osborne, 2000). To adjust for the clustering of students within schools, the achievement data were analyzed using Stata 12.1, statistical analysis software that includes components that account for clustering and produce more accurate estimates of standard errors. One-way ANOVAs were conducted on the achievement data instead of multiple *t*-tests, because a one-way ANOVA requires only one specified alpha level and therefore decreases the probability of making Type 1 errors (as compared to multiple *t*-

tests, which would require an alpha level per test). Where differences were found across grading periods, further analysis into the trends in means was conducted. For the attendance and behavior outcomes, paired-sample *t*-tests were conducted using the average number of days absent and the average number of disciplinary actions in the 2010/11 and 2011/12 school years.

Finally, tests for dependent variances were run for each of the outcome variables, to look at the differences in variances from the first data collection point to the last data collection point (Kirk, 1990).

To answer Research Question #2 regarding the relationship between frequency of program participation and student outcomes, a series of scatterplots were developed to look at the relationships between the number of days that students attended Program Afterschool and their change scores for each of the outcome variables. Correlational analyses were then conducted to obtain the Pearson product-moment correlation coefficient for each of these relationships and determine the direction and strength of each relationship.

It is important to note that the decision to use list-wise deletion was made as a method for dealing with the issue of missing data for each analysis. Although this method resulted in a slight decrease in the sample size for each part of the analysis, it was decided that incomplete data introduced too much bias into the sample because it represented students who did not attend Program Afterschool for the entirety of the school year, for whatever reason. Students who were part of the program for a shorter time period were deemed to possibly differ to a large degree from students attending the entire year (e.g.,

students entered at the beginning of the year may have improved and dropped out because they no longer needed program support).

CHAPTER 4

Results

In this chapter, the evaluation/research questions posed for this evaluation study are re-iterated, followed by a detailed presentation of the results of the analyses related to each question and outcome variable.

Research Question 1

The first evaluation/research question addressed whether or not students experienced improvements in Mathematics and Language Arts achievement, school attendance, and behavior during their participation in Program Afterschool. The results of the descriptive statistics, change score analysis, repeated-measures ANOVAs, trend analysis, and paired-samples *t*-tests are presented below, organized by outcome variable.

Mathematics Achievement. Mathematics achievement was measured by the teacher-assigned grades students received in Mathematics during each of the four quarters in 2011/12. The letter grades assigned to students were converted to numerical values based on the following key: 1=F, 2=D-, 3=D, 4=D+, 5=C-, 6=C, 7=C+, 8=B-, 9=B, 10=B+, 11=A-, 12=A, 13=A+. Therefore, a larger number denotes a higher achievement level. Figures 3-6 provide representations of the distribution of participating students' Mathematics grades for each quarter in 2011/12.

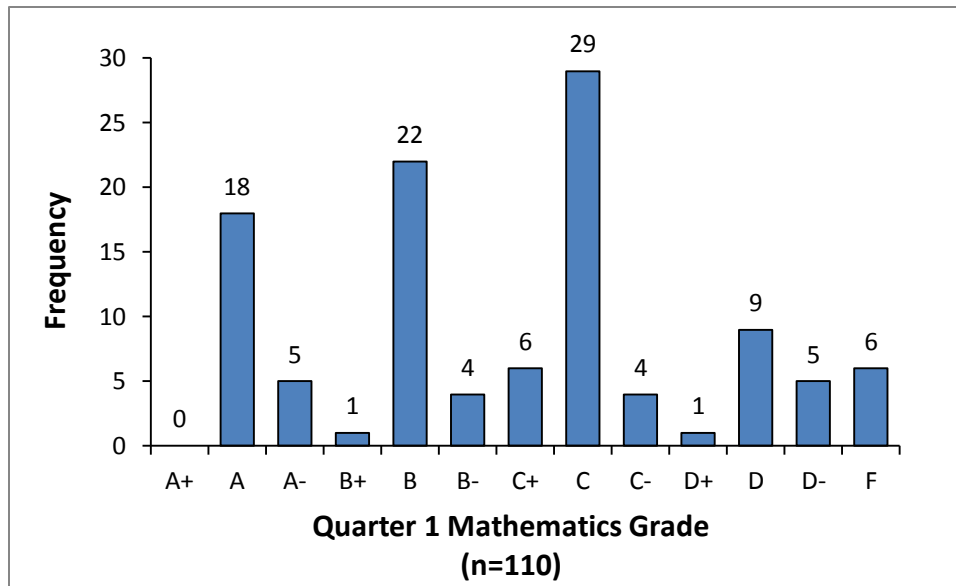


Figure 3. Frequency Distribution of Quarter 1 Mathematics Achievement Data for Participating Students, 2011/12

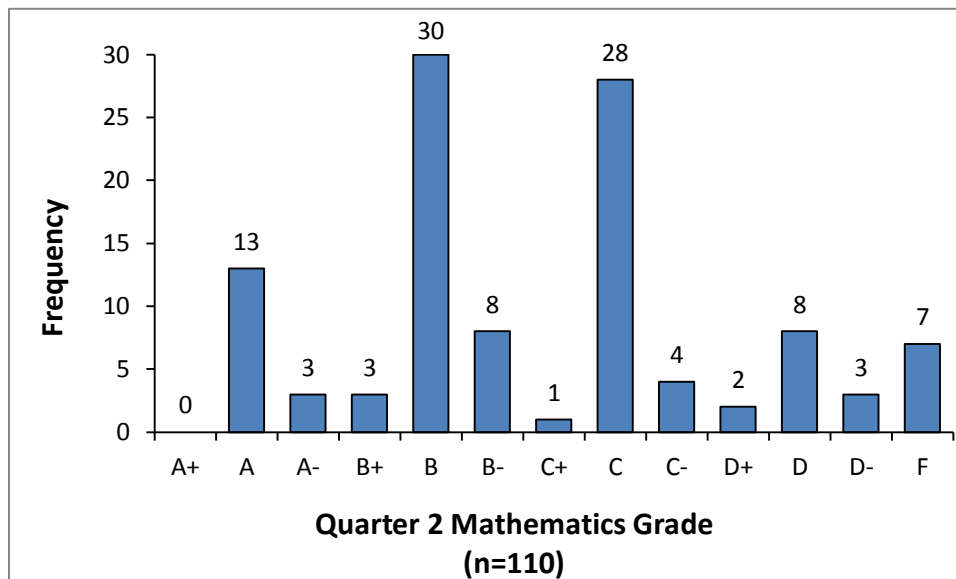


Figure 4. Frequency Distribution of Quarter 2 Mathematics Achievement Data for Participating Students, 2011/12

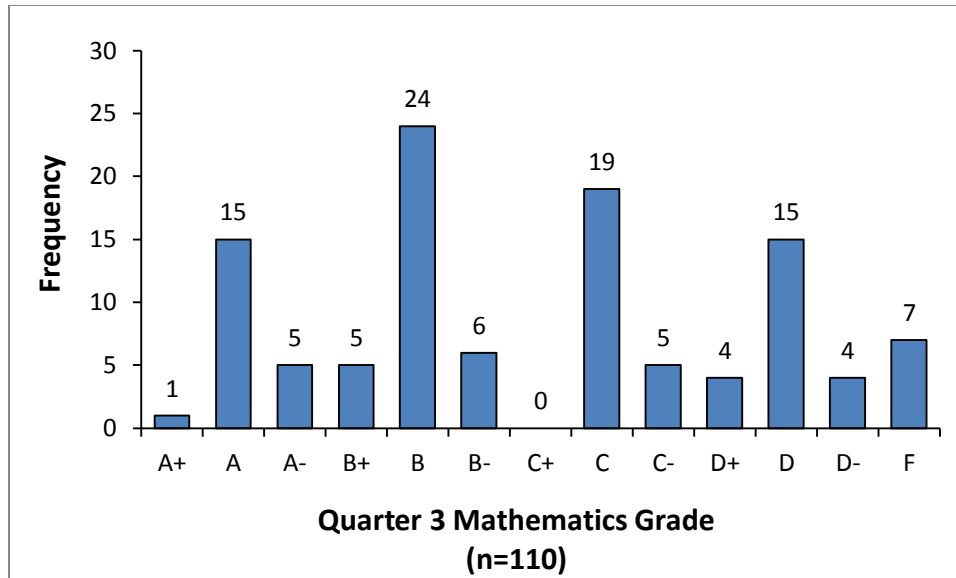


Figure 5. Frequency Distribution of Quarter 3 Mathematics Achievement Data for Participating Students, 2011/12

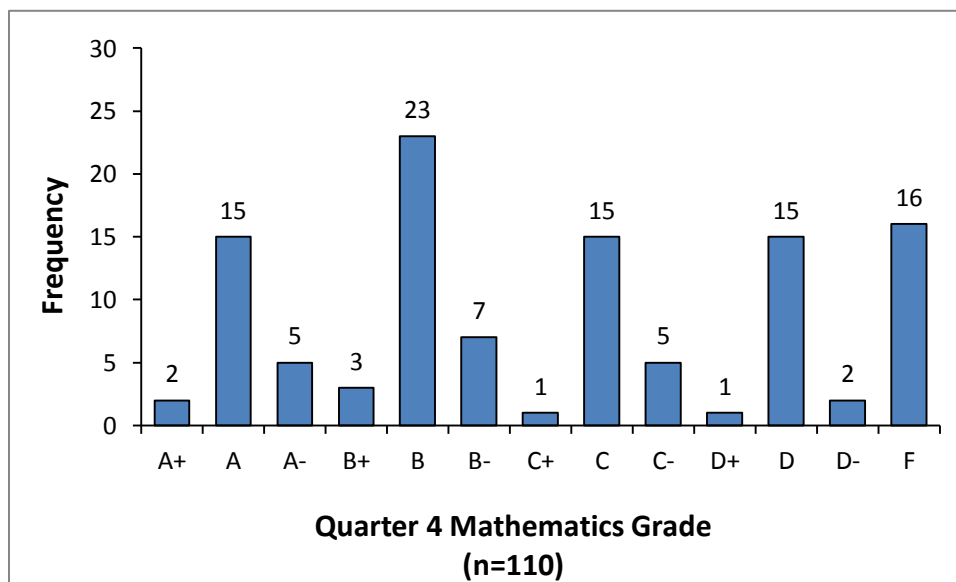


Figure 6. Frequency Distribution of Quarter 4 Mathematics Achievement Data for Participating Students, 2011/12

Table 1 presents descriptive statistics for student Mathematics achievement during the year of program participation. In 2011/12, average student Mathematics grades ranged from 6.77 to 7.22, which is equivalent to about a C+ average.

| Outcome Variable | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|------------------|-----|------|--------|--------------------|-----------|-----------|
| Math Grade Q1 | 110 | 7.22 | 7 | 3.27 | 1 | 12 |
| Math Grade Q2 | 110 | 7.21 | 8 | 3.09 | 1 | 12 |
| Math Grade Q3 | 110 | 7.06 | 8 | 3.46 | 1 | 13 |
| Math Grade Q4 | 110 | 6.77 | 7.5 | 3.78 | 1 | 13 |

Table 1. Math Achievement Descriptive Statistics for Participating Students, 2011/12

The quarterly Mathematics achievement means and standard deviations are shown over time in Figure 3. Mathematics grade means decreased somewhat throughout the school year. Standard deviations, however, seemed to have increased overall during the year, with a drop occurring in Quarter 2.

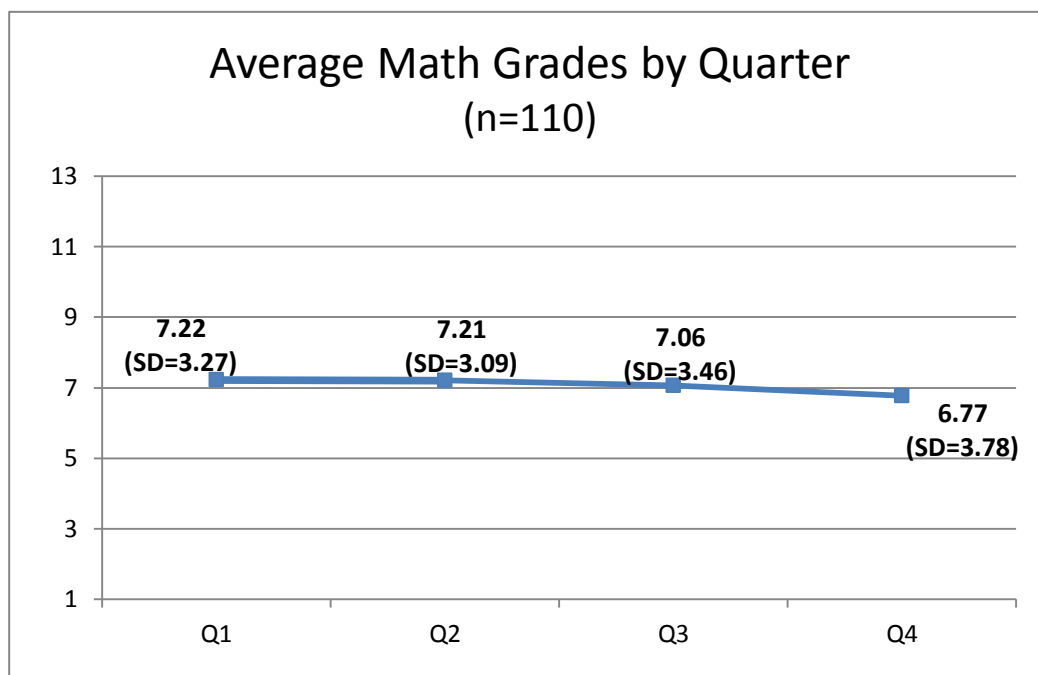


Figure 7. Trend in Average Mathematics Grades by Quarter

Changes scores were then calculated for Mathematics achievement to demonstrate the observed difference in student outcomes from the time they began to participate in Program Afterschool to the time they completed a year of participation in Program Afterschool. Mathematics achievement change scores were calculated by subtracting

students' numerical Mathematics grade in the 1st quarter in 2011/12 from the numerical Mathematics grade in the 4th quarter in 2011/12 (i.e., $Q4 - Q1 = \text{change in grade}$). Therefore, a positive score represents an increase in academic achievement throughout the year of program participation, while a negative number represents a decrease in academic achievement throughout the year. The average achievement change scores for Mathematics was negative, which means that, on average, students had lower Mathematics achievement after participating in Program Afterschool ($M = -0.45$, $SD = 2.866$). Additional information regarding the Mathematics achievement change score can be found in Table 2.

| Change Score | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|--------------------------|-----|-------|--------|--------------------|-----------|-----------|
| Achievement: Math Grades | 110 | -0.45 | 0 | 2.866 | -9 | +7 |

Table 2. Description of the Mathematics Grade Change Score for Participating Students.

Finally, a one-way, repeated measures ANOVA was conducted to compare student grades in Mathematics over each of the four quarters in the year that students participated in Program Afterschool. The analysis was conducted using Stata 12.1, statistical analysis software that can account for intra-class correlation resulting from students being nested within different schools. The intra-class correlation was computed for each of the outcome variables, and it was found to be high for the student achievement variables; in other words, there seems to be a tendency for students within the same school to earn similar Mathematics grades ($ICC_{q1}=.20$; $ICC_{q2}=.24$; $ICC_{q3}=.10$; $ICC_{q4}=.10$). Therefore, the within-subject variance is reduced and subsequently, the between-subjects variance is very high. Large intra-class correlations are an issue, particularly when sample sizes are small, because of the inflated alpha values which lead

to a higher possibility of Type I errors (Barcikowski, 1981). This inflation is not an issue in the current study, however, due to the analysis using primary sampling units within Stata 12.1. Results of the ANOVA indicated no statistically significant difference between quarters in terms of mean student Mathematics grades, $F(3,101) = 1.07$, $p = .367$. To further investigate the differences in the observed standard deviations in Mathematics grades from the beginning of the school year to the end of the school year, a test for dependent variances was conducted (Kirk, 1990). Results indicated no statistically significant differences in the variance in student Mathematics grades from Q1 and the variance in student Mathematics grades from Q4, $t(108) = -1.06$, $p = 0.29$.

Language Arts Achievement. Language Arts achievement was measured by the teacher-assigned grades students received in Language Arts during each of the four quarters in 2011/12. Like Mathematics achievement, the letter grades assigned to students were converted to numerical values based on the following key: 1=F, 2=D-, 3=D, 4=D+, 5=C-, 6=C, 7=C+, 8=B-, 9=B, 10=B+, 11=A-, 12=A, 13=A+. Therefore, a larger number denotes a higher achievement level. Figures 8-11 provide representations of the distribution of participating students' Language Arts grades for each quarter in 2011/12.

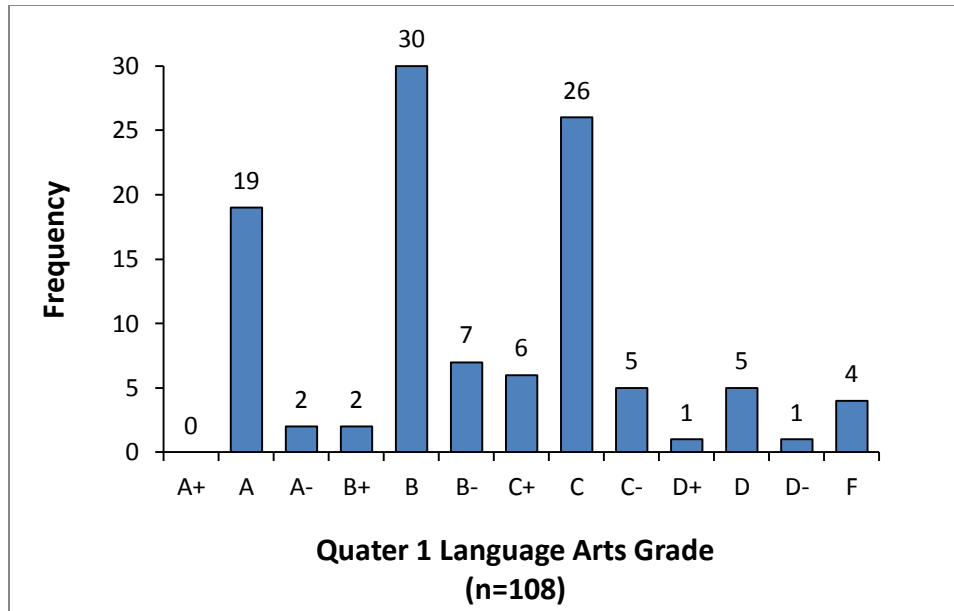


Figure 8. Frequency Distribution of Quarter 1 Language Arts Achievement Data for Participating Students, 2011/12

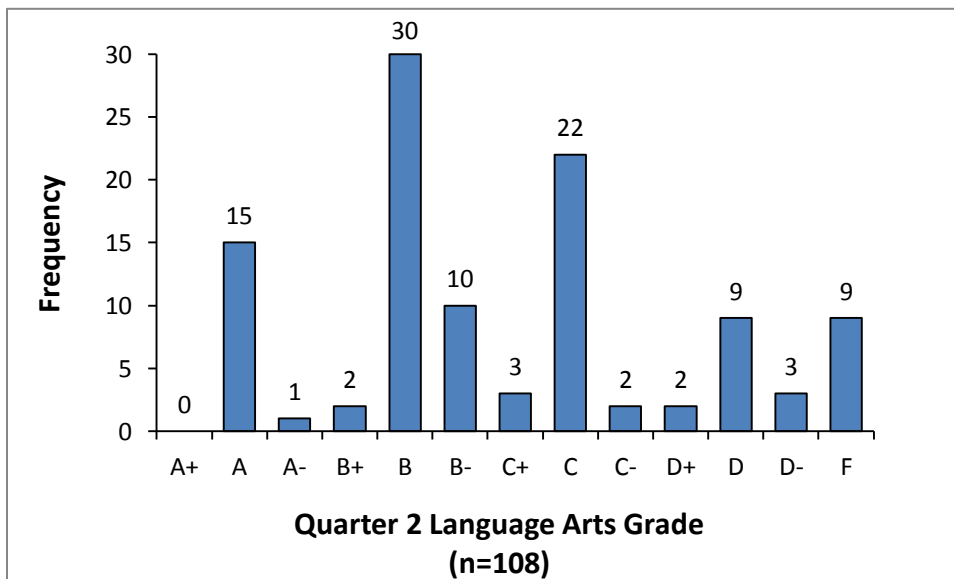


Figure 9. Frequency Distribution of Quarter 2 Language Arts Achievement Data for Participating Students, 2011/12

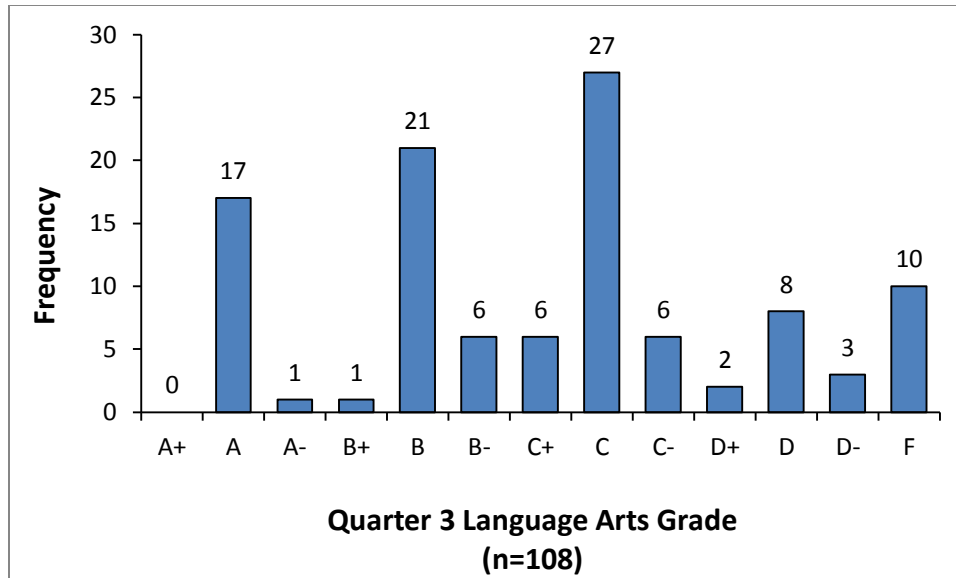


Figure 10. Frequency Distribution of Quarter 3 Language Arts Achievement Data for Participating Students, 2011/12

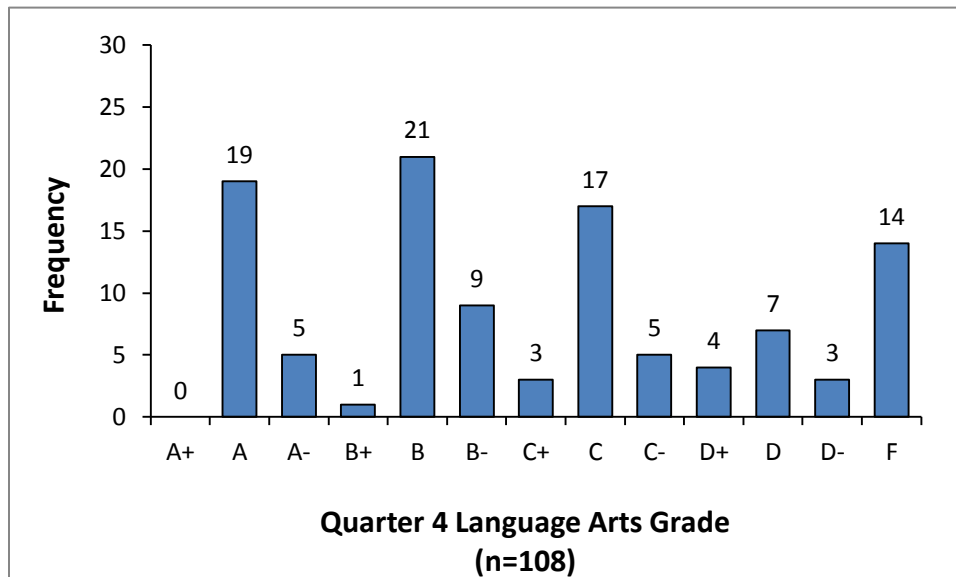


Figure 11. Frequency Distribution of Quarter 4 Language Arts Achievement Data for Participating Students, 2011/12

Table 3 presents descriptive statistics for student Language Arts achievement during the year of program participation. In 2011/12, average student Language Arts grades ranged from 6.89 to 7.81, which is equivalent to a C+ and a B-.

| Outcome Variable | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|------------------|-----|------|--------|--------------------|-----------|-----------|
| LA grade Q1 | 108 | 7.81 | 8 | 2.86 | 1 | 12 |
| LA grade Q2 | 108 | 7.17 | 8 | 3.25 | 1 | 12 |
| LA grade Q3 | 108 | 6.89 | 6 | 3.31 | 1 | 12 |
| LA grade Q4 | 108 | 7.03 | 8 | 3.64 | 1 | 12 |

Table 3. Language Arts Achievement Descriptive Statistics for Participating Students, 2011/12

The quarterly Language Arts achievement means and standard deviations are shown over time in Figure 5. Language Arts grades decreased throughout the year, with a small rise at the end of the year in the fourth grading quarter. Language Arts standard deviations consistently increased during the school year.

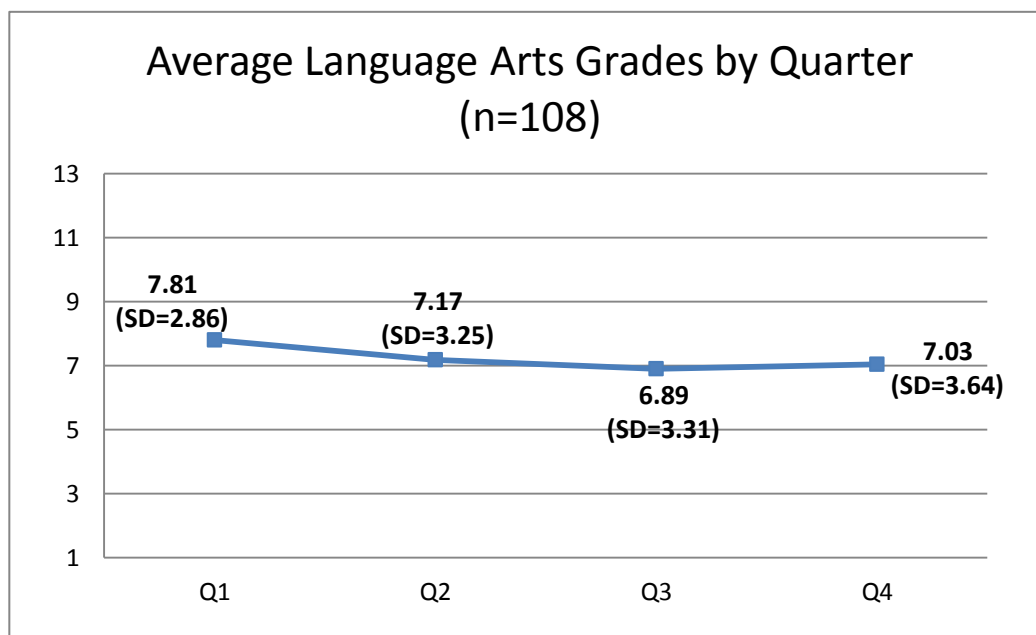


Figure 12. Trend in Average Language Arts Grades by Quarter

Changes scores were then calculated for Language Arts achievement to examine possible differences in student outcomes from the time they began to participate in Program Afterschool to the time they completed a year of participation in Program Afterschool. Language Arts achievement change scores were calculated by subtracting

students' numerical Language Arts grade in the 1st quarter in 2011/12 from the numerical Language Arts grade in the 4th quarter in 2011/12 (i.e., $Q4 - Q1 = \text{change in grade}$). Therefore, a positive score represents an increase in academic achievement throughout the year of program participation, while a negative number represents a decrease in academic achievement throughout the year. The average achievement change scores for Language Arts was negative, which means that, on average, students had lower Language Arts achievement after participating in Program Afterschool ($M = -0.79$, $SD = 3.212$). Additional information regarding the Language Arts achievement change score can be found in Table 4.

| Change Score | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|-----------------------|-----|-------|--------|--------------------|-----------|-----------|
| Achievement: LA Grade | 108 | -0.79 | 0 | 3.212 | -9 | +8 |

Table 4. Description of the Language Arts Grade Change Score for Participating Students.

Finally, a one-way, repeated measures ANOVA was conducted to compare student grades in Language Arts over each of the four quarters in the year that students participated in Program Afterschool. Like the Mathematics achievement analysis, the Language Arts analysis was conducted using Stata 12.1 software due to the high intra-class correlation found for the Language Arts achievement variables ($ICC_{q1}=.25$; $ICC_{q2}=.22$; $ICC_{q3}=.16$; $ICC_{q4}=.11$). Results of the ANOVA indicated a statistically significant difference between quarters in terms of mean student Language Arts grades, $F(3,99) = 3.86$, $p = .012$. Significance tests on the different combinations of quarters found statistically significant differences in Language Arts grades from Quarter 1 and Quarter 2 ($t(1) = 2.58$, $p = .011$), Quarter 1 and Quarter 3 ($t(1) = 3.40$, $p = .001$), and Quarter 1 and Quarter 4 ($t(1) = 2.55$, $p = .012$). Further analysis into the trend in average

Language Arts grades during the course of the school year found that average grades followed a quadratic trend across the four quarters. Also, to investigate the differences in the observed standard deviations in Language Arts grades from the beginning of the school year to the end of the school year, a test for dependent variances was conducted (Kirk, 1990). Results indicated a statistically significant difference in the variance in student Language Arts grades from Q1 and the variance in student Language Arts grades from Q4, $t(106) = -1.97$, $p = 0.05$.

School Attendance. School attendance was defined as the number of days students were absent from school. Figures 13 and 14 provide representations of the distribution of the number of days that participating students were absent in 2010/11 and 2011/12. The distributions were slightly different in the year before and year of program participation.

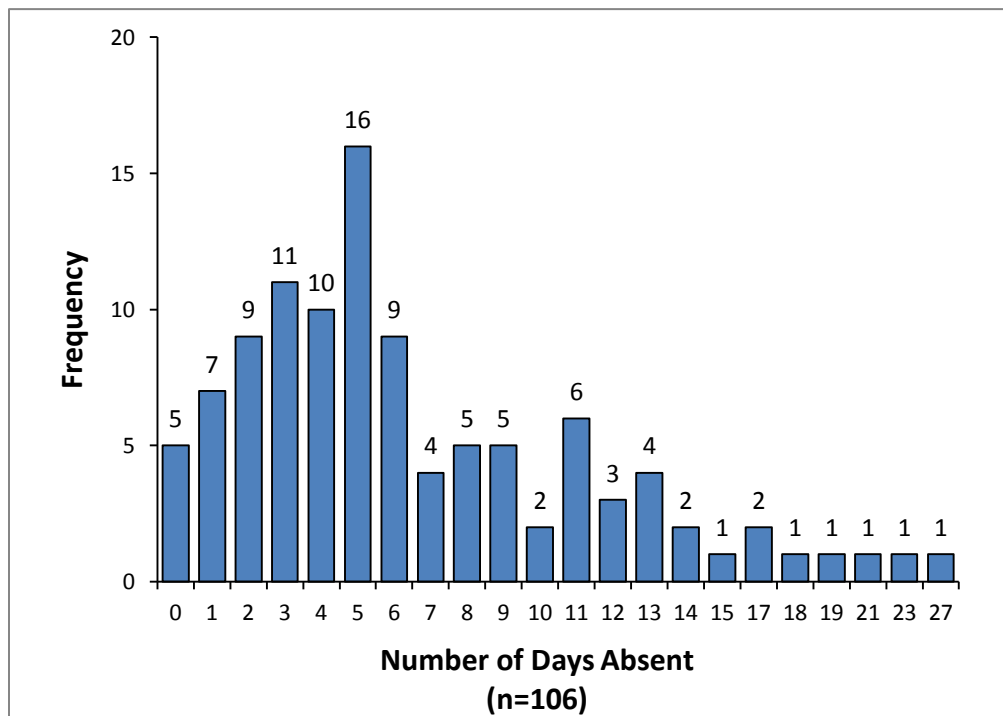


Figure 13. Frequency Distribution of Attendance Data for Participating Students, 2010/11

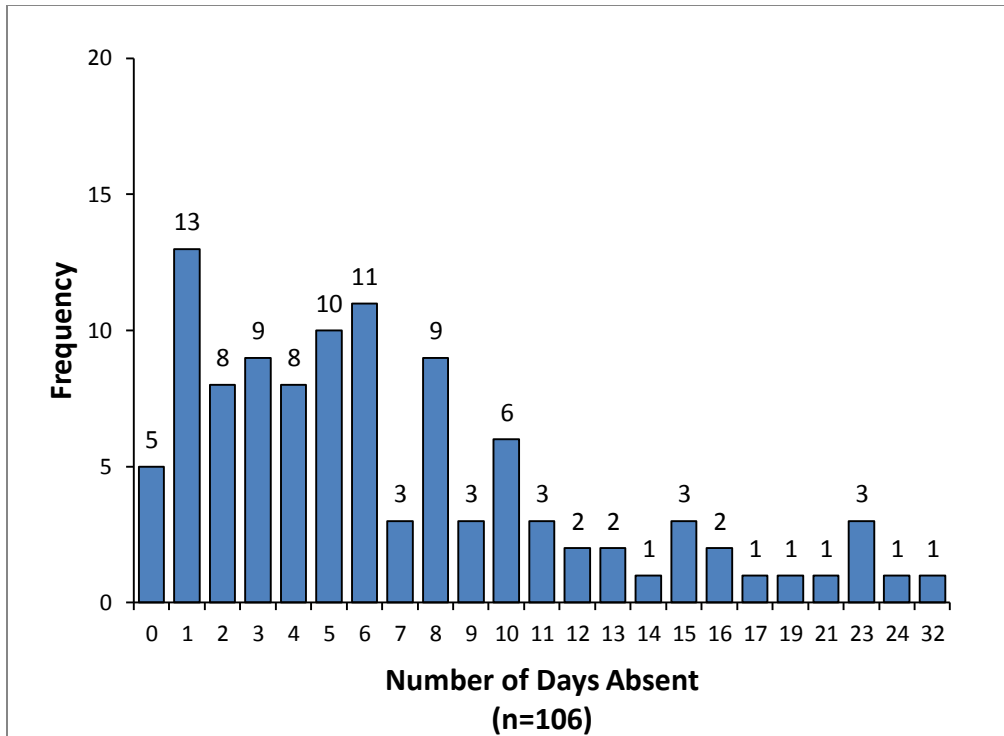


Figure 14. Frequency Distribution of Attendance Data for Participating Students, 2011/12

Table 5 presents descriptive statistics for school attendance during the year of program participation. Participating students were absent for an average of 6.64 days in 2010/11 and 6.98 days in 2011/12. Standard deviations slightly increased over the data collection period, from 5.24 in 2010/11 to 6.13 in 2011/12.

| Outcome Variable | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|------------------|-----|------|--------|--------------------|-----------|-----------|
| 2011 Days Absent | 106 | 6.64 | 5 | 5.24 | 0 | 27 |
| 2012 Days Absent | 106 | 6.98 | 5.5 | 6.13 | 0 | 32 |

Table 5. School Attendance Descriptive Statistics for Participating Students, 2010/11 and 2011/12

Changes scores were then calculated for school attendance to demonstrate the observed difference in student outcomes from the time they began to participate in Program Afterschool to the time they completed a year of participation in Program Afterschool. Attendance change scores were calculated by subtracting the number of days

that students were absent from school in 2010/11 from the number of days they were absent from school in 2011/12 (i.e., 2011/12 school year – 2010/11 school year = change in attendance). In this case, a negative score shows a decrease in the number of days that students were absent from school after participating in Program Afterschool, and therefore shows improvement on the attendance outcome while a positive score shows an increase in the number of days absent, and therefore denotes a decline on the attendance outcome. The average school attendance change score was a positive number, which means that, on average, students missed school more frequently after participating in Program Afterschool for one year ($M = +0.34$, $SD = 5.998$). Additional information regarding the school attendance change score can be found in Table 6.

| Change Score | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|-------------------|-----|-------|--------|--------------------|-----------|-----------|
| School Attendance | 106 | +0.34 | 0 | 5.998 | -26 | +17 |

Table 6. Description of the School Attendance Change Score for Participating Students.

Finally, a paired samples t -test was conducted to compare the number of days that students were absent from school in 2010/11 and the number of days that students were absent from school in 2011/12. Results indicated no statistically significant difference between the mean number of days that students were absent from school before participating in Program Afterschool ($M = 6.64$, $SD = 5.24$) and during the year of participation in Program Afterschool ($M = 6.98$, $SD = 6.13$), $t(105) = -0.583$, $p = .561$. To further investigate the differences in the observed standard deviations in student attendance from 2010/11 to 2011/12, a test for dependent variances was conducted (Kirk, 1990). Results indicated no statistically significant difference in the variance in the

number of days students were absent in 2010/11 and the variance in the number of days students were absent in 2011/12, $t(104) = -0.80$, $p = 0.43$

Student Behavior. Student behavior was defined as the number of disciplinary actions received by each student. Figures 15 and 16 provide representations of the distribution of the number of disciplinary actions against participating students in 2010/11 and 2011/12. The majority of students incurred no disciplinary actions during the year before and year of program participation, although there were fewer students with no disciplinary actions in the year of the program.

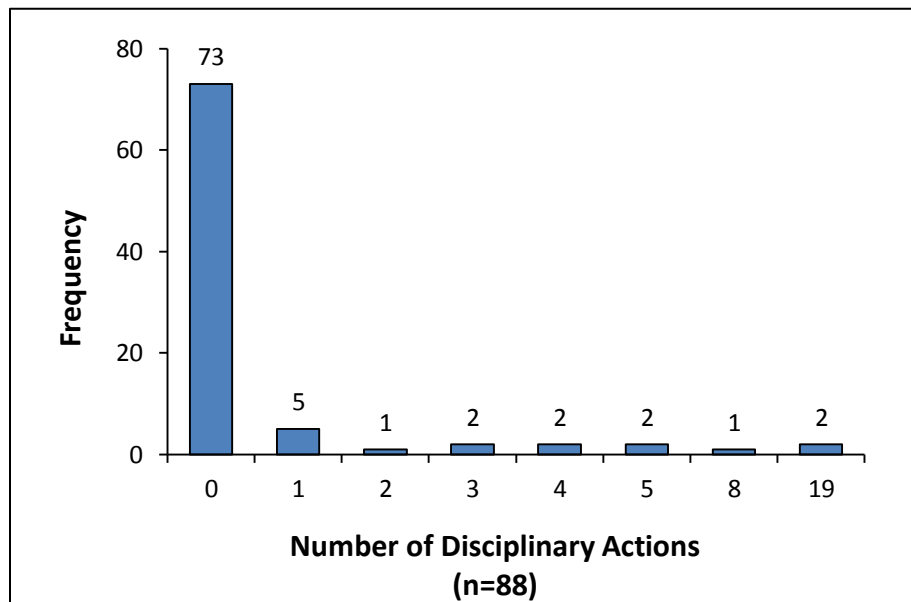


Figure 15. Frequency Distribution of Behavior Data for Participating Students, 2010/11

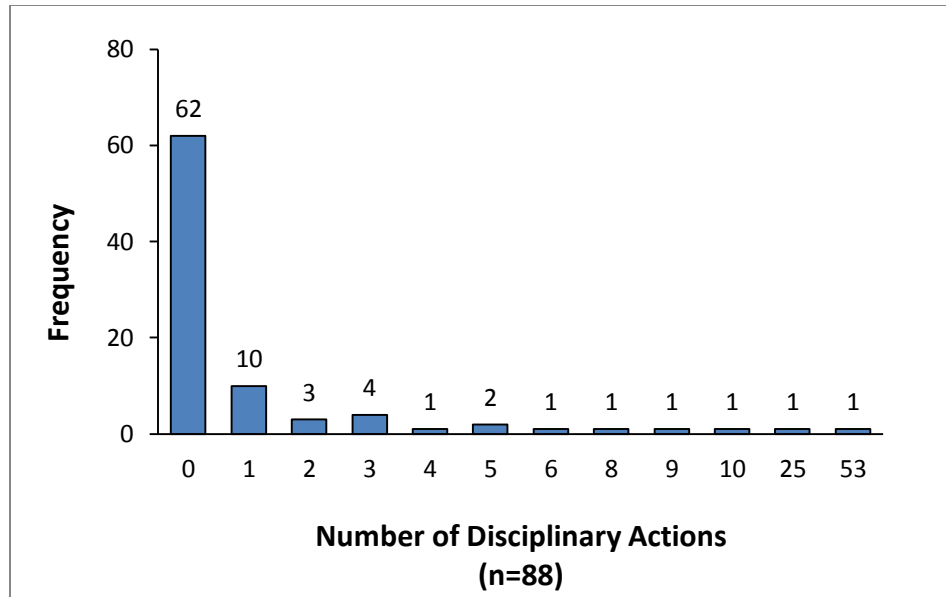


Figure 16. Frequency Distribution of Behavior Data for Participating Students, 2011/12

Table 7 presents descriptive statistics for student behavior during the year of program participation. Participating students received an average of less than 1 disciplinary action against them in 2010/11 ($M = 0.88$), but this number increased in 2011/12 ($M = 1.75$). Similar to the other variables of interest, the standard deviations in the number of disciplinary actions against students increased from 3.08 in 2010/11 to 6.41 in 2011/12.

| Outcome Variable | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|---------------------------|----|------|--------|--------------------|-----------|-----------|
| 2011 Disciplinary Actions | 88 | 0.88 | 0 | 3.08 | 0 | 19 |
| 2012 Disciplinary Actions | 88 | 1.74 | 0 | 6.41 | 0 | 53 |

Table 7. Behavior Descriptive Statistics for Participating Students, 2010/11 and 2011/12

Changes scores were then calculated for behavior to demonstrate the observed difference in student outcomes from the time they began to participate in Program Afterschool to the time they completed a year of participation in Program Afterschool. Behavior change scores were calculated by subtracting the number of disciplinary actions

recorded in 2010/11 from the number of disciplinary actions recorded in 2011/12 (i.e., 2011/2012 school year – 2010/2011 school year = change in behavior). Similar to attendance, a negative behavior change score represents a decrease in the number of behavioral issues recorded for a student and shows improvement on the behavior outcome, while a positive behavior change score denotes an increase in the number of behavioral issues recorded for a student and shows a decline on the behavior outcome. The average behavior change score was a positive number, which means that, on average, students received more disciplinary actions against them after participating in Program Afterschool for one year ($M = +0.86$, $SD = 4.128$). Additional information regarding the behavior change score can be found in Table 8.

| Change Score | N | Mean | Median | Standard Deviation | Min Value | Max Value |
|--------------|----|-------|--------|--------------------|-----------|-----------|
| Behavior | 88 | +0.86 | 0 | 4.128 | -8 | +34 |

Table 8. Description of the Behavior Change Scores for Participating Students.

Finally, a paired samples t -test was conducted to compare the number of disciplinary actions taken against students in 2010/11 and the number of disciplinary actions taken against students in 2011/12. There were no statistically significant difference between the number of disciplinary actions taken against students before participating in Program Afterschool ($M = 0.88$, $SD = 3.08$) and during the year of participation in Program Afterschool ($M = 1.74$, $SD = 6.41$), $t(87) = -1.963$, $p = .053$. To further investigate the differences in the observed standard deviations in the number of disciplinary actions against students in 2010/11 and 2011/12, a test for dependent variances was conducted (Kirk, 1990). Results indicated there was a statistically significant difference in the variance in student behavior over the data collection period, $t(86) = -13.04$, $p < .001$.

Research Question 2

The second evaluation/research question addressed whether or not there was a relationship between the frequency with which students attended Program Afterschool and their change scores on the measures of Mathematics and Language Arts achievement, school attendance, and student behavior. The results of the graphical and correlational analysis are presented below, organized by outcome variable.

Mathematics Achievement. First, a scatterplot was created to visually analyze the relationship between students' Mathematics change score and the frequency with which they attended Program Afterschool. Figure 4 shows this association. There does not appear to be a strong relationship between these two variables.

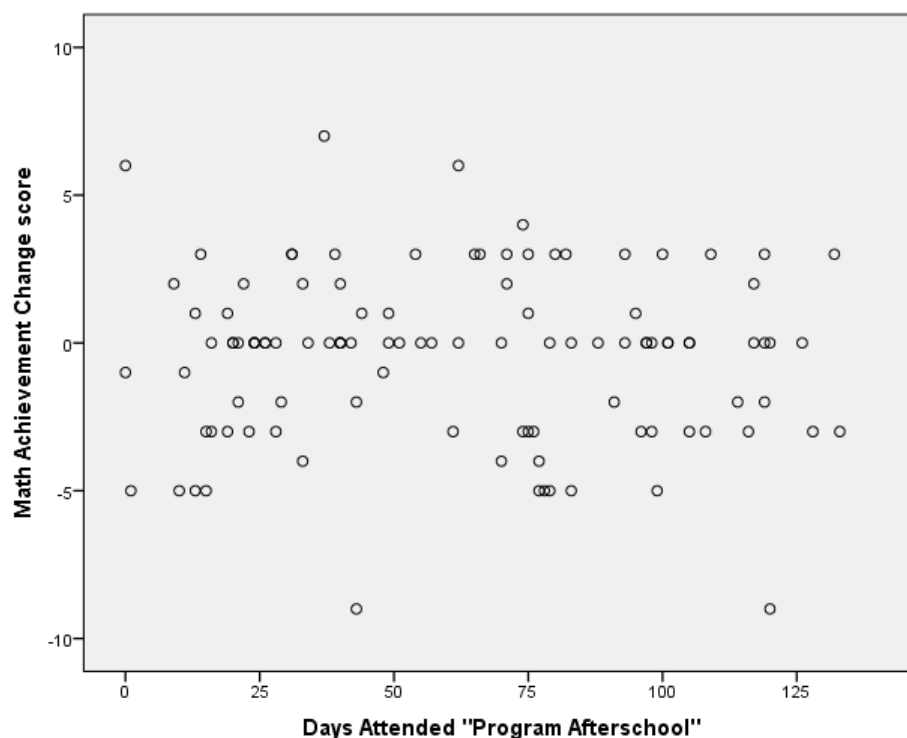


Figure 17. Relationship between Frequency of Program Participation and Mathematics Achievement Change Score.

A Pearson product-moment correlation test confirmed that there was no significant relationship between the frequency with which students attended Program

Afterschool and student progress in Mathematics class during the year, $r(106) = -.047$, $p = .63$.

Language Arts Achievement. Figure 6 shows a visual representative of the relationship between students' Language Arts change score and the frequency with which they attended Program Afterschool. Based on the scatterplot, there does not appear to be a strong relationship between these two variables.

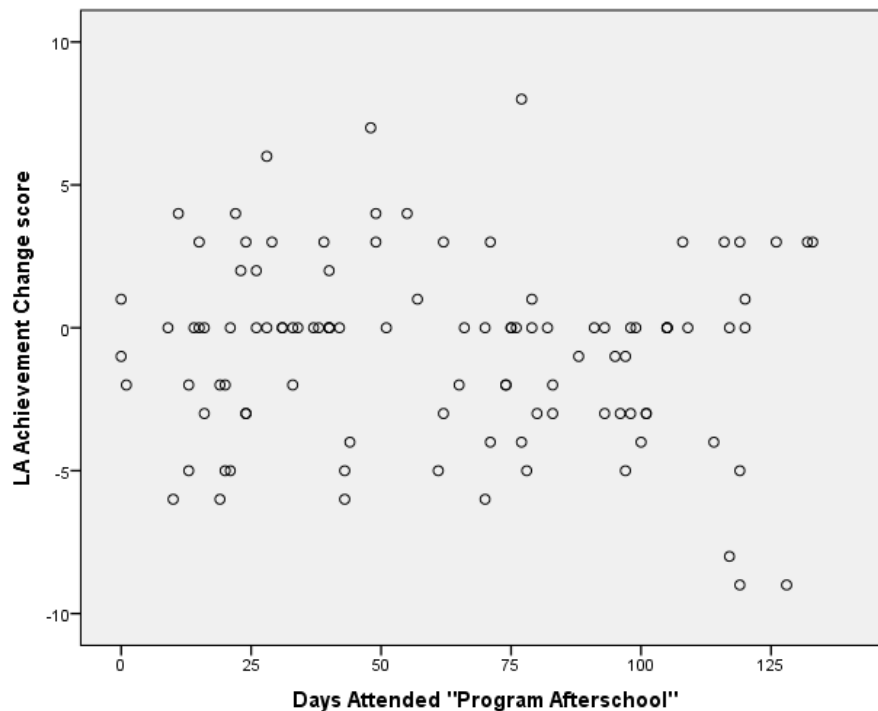


Figure 18. Relationship between Frequency of Program Participation and Language Arts Achievement Change Score.

A Pearson product-moment correlation test confirmed that there was no significant relationship between the frequency with which students attended Program Afterschool and student progress in Language Arts class during the year, $r(104) = -.096$, $p = .33$.

School Attendance. The relationship between students' school attendance change score and the frequency with which they attended Program Afterschool is shown in Figure 7. There does not appear to be a strong relationship between these two variables.

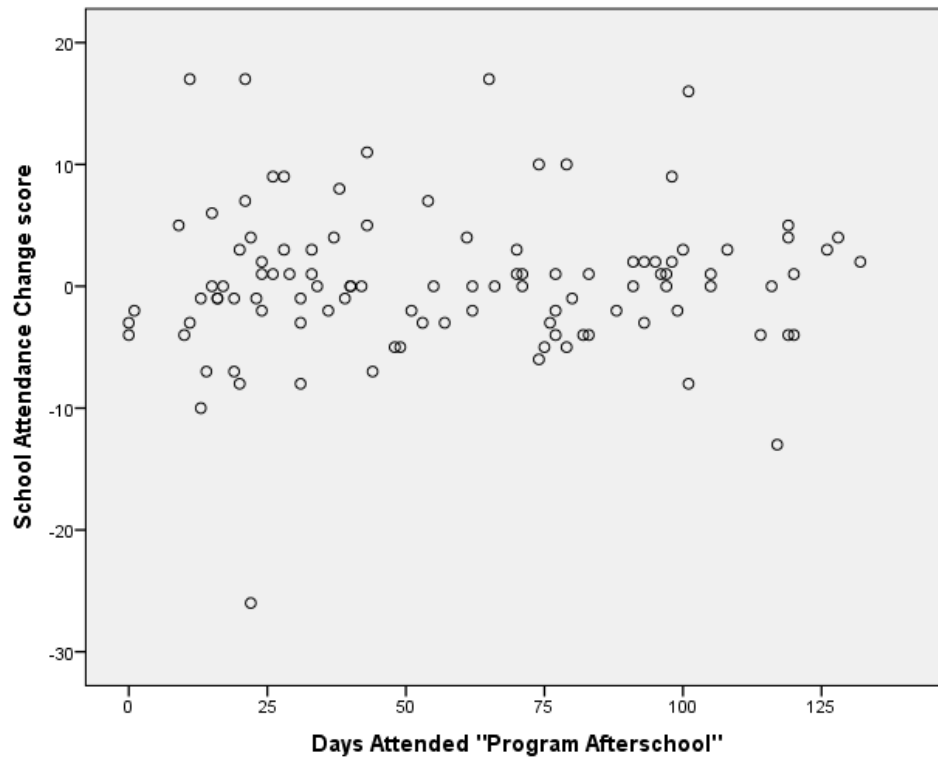


Figure 19. Relationship between Frequency of Program Participation and School Attendance Change Score.

A Pearson product-moment correlation test confirmed that there was no significant relationship between the frequency with which students attended Program Afterschool and their progress in attending school during the year, $r(104) = .041$, $p = .68$.

Student Behavior. Figure 8 presents the association between students' behavior change score and the frequency with which they attended Program Afterschool. A visual interpretation of the scatterplot indicates no relationship between these two variables.

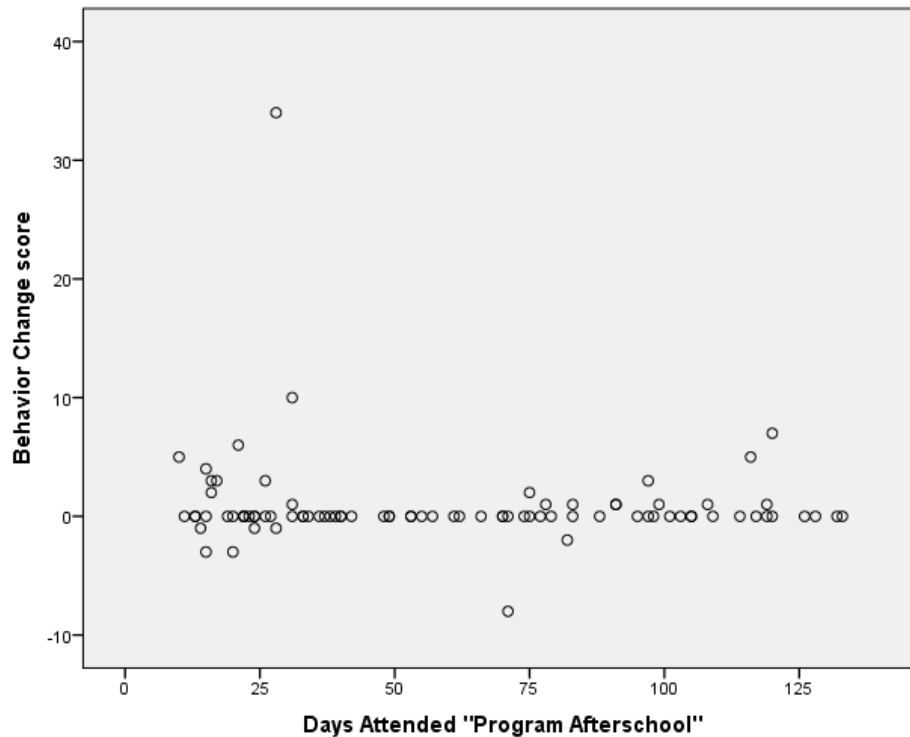


Figure 20. Relationship between Frequency of Program Participation and Behavior Change Score.

A Pearson product-moment correlation test confirmed that there was no significant relationship between the frequency with which students attended Program Afterschool and their progress in receiving disciplinary actions during the year, $r(86) = -.088$, $p = .41$.

In summary, hypothesis test results for Mathematics achievement, school attendance, and student behavior indicated no significant changes in average outcomes by participating students over the course of their involvement in Program Afterschool. Results from the Language Arts ANOVA revealed a significant difference in average student grades over the four quarters of the Program year, and the average Language Arts grades followed a quadratic trend. Tests for dependent variances showed statistically significant differences in the variance for student Language Arts grades and the number of disciplinary actions against students from the first data collection point to the last data

collection point. Correlation tests on the relationship between the number of days that students attended Program Afterschool and student change scores on each of the outcomes variables indicated no significant relationships.

CHAPTER 5

Discussion

This chapter presents conclusions regarding the results of the analysis presented in Chapter 4. The study hypotheses are reviewed and detailed interpretations of the results of these hypotheses are provided, along with plausible explanations for the findings obtained and directions for future research. This chapter concludes with a discussion of the limitations to the current study and recommendations to Program Afterschool staff in terms of program improvement and future evaluation.

Hypothesis 1

The first hypothesis was that the academic, attendance, and behavioral outcomes of students participating in Program Afterschool will improve during the year of program participation. This hypothesis was not supported for any of the outcome variables. The most obvious explanation for these results is that Program Afterschool fails to successfully meet the needs of students struggling in the areas of academics, school attendance, and behavior. However, there are other plausible rationales for the results that should be considered. An examination of the results begins with a discussion of specific student outcomes of Mathematics and Language Arts achievement, school attendance, and behavior and then proceeds into some common explanations for the results seen regarding student outcomes as a whole.

Mathematics Achievement. Results from the analysis showed no statistically significant difference in the average Mathematics grades for participating students across

the four quarters of the school year. Change scores revealed that student grades in Mathematics slightly decreased over time, though not significantly.

LA Achievement. Statistically significant differences were found in the average Language Arts grades between quarters during the program year. Specifically, there were significant differences between Quarter 1 and each of the following quarters, suggesting that student achievement in Language Arts declined after the first part of the school year. Change scores for student Language Arts achievement also showed a slight overall decrease in grades over the year. There are two main reasons why these decreases may have occurred. One is that the first quarter of the school year typically includes a review of material learned the previous year, so students might be expected to have higher levels of achievement compared to the following quarters, when teachers present new, and presumably more difficult, material. Another plausible explanation is that student motivation for learning declines over the course of the school year. This has been found to particularly apply to students after transitioning into middle school (Anderman & Midgley, 1997). Coupled with easier material, students may receive satisfactory grades on first quarter report cards and then become complacent in their study habits for subsequent quarters because they are expecting similar results. However, as the material becomes more difficult, student grades may start to decrease unless they recognize the need to, and have the motivation to, increase their academic effort. There is some indication that this may have occurred, as trend analysis revealed that the average Language Arts grades followed a quadratic trend. While differences between other quarters were not statistically significant, this quadratic trend suggests that Language Arts grades may continue to improve, given more time.

School Attendance. While there was a slight increase observed in average student absences after the program, results from the analysis found no statistically significant difference between the number of days that students were absent from school before participating in Program Afterschool and during the year of participation in Program Afterschool. Change scores provided further information showing that students missed slightly more school days during the year they participated in Program Afterschool compared to the previous year. Unfortunately, these findings are not in line with previous research on after-school programs, where many studies have seen an increase in school attendance after participating in the program (Afterschool Alliance, 2012; Kauh, 2011). Program Afterschool may not have been a strong enough incentive for students to want to attend the school day before going to the program. One way that after-school programs are thought to increase school attendance is by strengthening students' attachment to school and giving them something to look forward to at the end of the school day (Goerge, Cusic, Wasserman, & Gladden, 2007). If students are not excited enough about the activities provided during Program Afterschool to encourage them to come to school, it could be one possible explanation for the lack of improvement in school attendance found after one year in the program.

Another reason that student attendance may not have improved after participating in the program is that Program Afterschool does not specifically focus on increasing school attendance. Although other after-school programs haven't necessarily needed to explicitly target school attendance rates in order to see an improvement, the population served by Program Afterschool may need more support in that area (Afterschool Alliance, 2012). There are many evidence-based strategies for increasing school

attendance which are included in detail in the Recommendation section of this report. Program Afterschool may see an increase in school attendance if these strategies are implemented in the program.

Behavior. Results from the analysis indicated no statistically significant difference between the number of disciplinary actions taken against students before participating in Program Afterschool and during the year of participation in Program Afterschool. Change scores, however, revealed a larger observed mean number of disciplinary actions after participation in the program. Although these results may look discouraging, a data report from the Public Schools of North Carolina (2013) detailed the increasing issues with student behavior as students progress through the middle school grades. Over a five-year period, eighth grade students were found to have more short-term suspensions, long-term suspensions, and expulsions than seventh graders, who in turn had more of these disciplinary actions than sixth-grade students (Public Schools of North Carolina, 2013). This state-level information suggests that there is an increasing trend of disciplinary actions against students as they advance through the middle school grades. If this is the case, the increase in disciplinary actions against Program Afterschool students found in the current evaluation study may be part of larger trend.

Shared Explanations for Student Outcome Results. As briefly mentioned at the beginning of this chapter, the lack of statistically significant improvements in student achievement, attendance, and behavior found in this evaluation study may be due to Program Afterschool not successfully meeting the needs of students attending the program. Researchers have stressed the importance of having structured and meaningful after-school activities in order to see positive outcomes in participating students (Cooper

et al., 1999; Fletcher et al., 2003; Gilman et al., 2004; Stewart, 2008). Because Program Afterschool activities – including homework help, module instruction, and student projects – are designed to be highly structured, it is essential that program sites consistently implement the activities as intended. In addition, by identifying the interests and needs of participating students, program staff can be better prepared to design and implement activities that are meaningful to the students served. Personal Investment Theory suggests that the degree to which tasks are meaningful is linked to an individual's sense of self, goals, and action possibilities in a given situation (Maehr, 1984). The results obtained in the current study may be an indication of the need for participating students to develop specific educational goals, a belief that they can achieve those goals, opportunities for success, and a better knowledge of the valued behaviors (i.e., high course grades, frequent school attendance, and positive behavior).

Gilman et al. (2004) and Simpkins (2003) provided some characteristics of highly effective after-school programs such as a safe environment with adult supervision, methods for preventing students from engaging in delinquent behavior, lessons targeting skills, beliefs, and behaviors, and opportunities to develop positive relationships with peers and mentors. The lack of positive outcomes found in the current study could point to a void in one or more of these areas within the Program Afterschool programming. In addition, participating students may improve their academic, attendance, and behavioral outcomes during the course of Program Afterschool if program staff consider the alignment of program activities to program goals, research-based strategies for supporting successful educational outcomes for middle school students, the unique needs and interests of participating students, and implementation fidelity to the design of the

program. More information regarding issues related to ineffective programming, and suggestions for improving Program Afterschool, is provided in the Recommendation section of this report.

It is also important to consider other plausible explanations for the lack of improvement, and even decreases, in the student outcomes during the year of participation in Program Afterschool. One explanation may have to do with characteristics of the population of students being served. Program Afterschool, like most after-school programs, is designed to reach students who are most in need of support and that need may lead to what looks to be a lack of improvement or even a significant decline. It is unknown what student outcomes would look like for these students had they not participated in Program Afterschool; the outcomes may have been better or worse.

Another plausible explanation for the lack of support for the first hypothesis is that one year is not enough time to see positive changes in students who participate in Program Afterschool. The literature on after-school programs points to long-term effects on middle school students, some appearing even into high school (Cohen & Smerdon, 2009). Furthermore, although some researchers have found positive outcomes for students after participating in after-school programs for one year, others have found these improvements only after two years (Miller, 2003). A review by Afterschool Alliance (2012) found that students who participated in an after-school program during 8th grade continued to have increases in school attendance rates through 9th, 10th, and 11th grade. This same review found that 8th grade students who participate in an after-school program had reductions in suspension rates in 9th grade, after they had stopped attending the program. It may be that more time is needed before improvements can be observed.

The analysis indicated that the increase in the standard deviations of students' Language Arts grades and the number of disciplinary actions against students from the first data collection point to the last data collection point was statistically significant. This increase illustrates greater variation between students in terms of Language Arts achievement and behavior by the end of the program year, which suggests there was some type of change among students during the year: some may have greatly improved while others greatly declined. This variation may be tied to a variety of unknown factors, including characteristics of the students participating. In fact, research has discovered that students from different socio-economic levels, racial/ethnic groups, and genders often have different outcomes relating to their participation in after-school programs. Particularly, the strongest positive outcomes after attending after-school programs have been seen in struggling learners, English Language Learners, minority students, and students from low-income families (Afterschool Alliance, 2012; Cosden et al., 2004; Lauer et al., 2006; Miller, 2003; Woodland, 2008). The results obtained from the current evaluation study may be explained by the demographic makeup of students in the program.

Finally, research on student attrition from after-school programs suggests that the students who need the most help are often the ones who do not stay for the duration of the program period (Weisman & Gottfredson, 2001). This finding provides some insight to the possible bias in the results from the current evaluation study. Since the current analysis only included students who had been in Program Afterschool for all of the relevant data collection points, the educational outcomes of students in the program may be even worse than indicated by the current results. However, the reverse may also be

true. Students who improved while attending Program Afterschool may have left the program because they felt they no longer needed continued support. More research is needed to better understand the characteristics of students who participate in after-school programs, specifically Program Afterschool, for the entire school year.

Hypothesis 2

The second hypothesis tested was that the number of days students attended Program Afterschool would be positively associated with student achievement and school attendance and negatively associated with student behavior problems. This hypothesis was also not supported by the results from the data analysis. Since this lack of support is contrary to what has been uncovered by other studies of after-school programs, the following sections detail the possible explanations for these results. Ideas for future research are also provided to further understand why student attendance in Program Afterschool was not found to relate to their progress on each outcome variable.

Correlations of outcomes and program attendance. Results from the correlational analysis indicated no statistically significant relationships between student progress in Mathematics achievement, Language Arts achievement, school attendance, or behavioral issues and the number of days that students attended Program Afterschool. While these results do not support the hypothesis, they are not completely contrary to what has been found in previous studies. Research on the relationship between after-school program attendance and student outcomes has produced evidence that both supports and does not support the idea that the more often students attend a program, the more they will improve on markers of educational success (Dynarski, 2003; Harvard Family Research Project, 2006; Munoz, 2002; Riggs, 2006).

One reason for these differing results seems to be the distinction, or rather lack of distinction, between program attendance and program participation. Although it is standard practice to use student attendance as a measure of participation due to the availability of data on attendance compared to data on participation, it may not be the most accurate measure. As mentioned earlier, Personal Investment Theory supports the notion that active participation will have a greater impact on student outcomes than simply passive attendance (Jordan & Nettles, 1999; Maehr, 1984). Other researchers have agreed with this notion, pointing to the importance of student engagement during program activities (Miller, 2003; Weiss et al., 2005). When only data on program attendance are available, researchers are unable to gauge the degree to which students are actively engaged in the activities that are designed to help them make progress in school. Findings from the current evaluation study regarding the relationship between program attendance and student outcomes may have differed had student participation data been available for inclusion.

Limitations

As with any research study, there are several limitations to the current evaluation study that should be taken into account when interpreting results. The first has to do with the study design. The current study used a quasi-experimental, one-group, pretest-posttest design. As described in the Evaluation Study Design section of this paper, there are many threats to internal and external validity that are associated with quasi-experimental designs, particularly when there is no comparison group. These threats limit the casual inferences that can be made regarding student outcomes and their participation in Program Afterschool, as well as the generalization of results to other students

participating in other after-school programs. The current study would have benefited from employing random assignment of students to participate in Program Afterschool. If that is not possible due to practical and monetary constraints, a matched comparison group could be created from a sample of similar students not participating in the program, using a statistical method such as propensity score matching. Research has shown this method to add rigor to quasi-experimental designs (Bender et al., 2011; Rosenbaum & Rubin, 2983).

The second limitation of this study has to do with the sample of participants. The current study used a small, non-representative sample of participants who attended one after-school program in North Carolina. Both the small sample size and the non-random nature of the sampling limit the ability to generalize the results to other middle school students participating in after-school programs. Additionally, the small sample size means this evaluation study has less statistical power, which limits the ability to detect changes in students after participating in Program Afterschool.

The third limitation of this study is related to the data collected from students. As mentioned briefly earlier in the Discussion section of this paper, student data were only collected for the term during which students participated in Program Afterschool. Students who dropped out of the program after a period of time were not included in the data collection after the point in which they left, and students who joined the program after the beginning of the school year were not included in the data collection before they began the program. This can bias the results of the evaluation study because students who stayed in the program the entire year may differ from those who only attended for a portion of the year.

Finally, the length of the current evaluation study may not be sufficient. The study used data collected from students during only one year of program participation. Data from several years after the program may show additional changes relating to program attendance. Moreover, students in this study had only attended the program for one year. It is possible that students attending Program Afterschool for a longer period of time may have different outcomes.

Recommendations to Program Afterschool

As this is an evaluation study of Program Afterschool, it is important to provide not only results of the research questions asked regarding students in the program, but also some recommendations for program improvement based on the findings of the study. While these recommendations have been developed with Program Afterschool in mind, they are grounded in best practices found in the literature and can be applied to similar situations in other out-of-school programming.

Programming Recommendations.

1. **Implement proven strategies for improving academic achievement through out-of-school-time program activities.** The What Works Clearinghouse, a resource for successful educational practices from the U.S. Department of Education, provides a wealth of information on increasing student achievement within after-school programs. Some ideas include:
 - a. Align program curricula with school curricula;
 - b. Adapt activities to the needs of participating students;
 - c. Continually assess student progress and use the knowledge gained to improve program activities; and

- d. Engage students in all aspects of learning (Beckett et al., 2009).

2. Work with schools to encourage school attendance among program

participants. Chang and Jordan (n.d.) detailed strategies for building a culture of attendance between schools and after-school programs. This include things such as:

- a. Stressing the importance of attendance;
- b. Sharing data between schools and after-school programs regarding student absence, then analyzing this data to identify areas for improvement and students in need of targeted support; and
- c. Combining resources to educate students and families on the importance of regular school attendance, discussing barriers to attendance, and finding solutions for these barriers.

3. Support positive student behavior both implicitly and explicitly. The

following strategies from the literature on student behavior can be integrated into the Program Afterschool curriculum:

- a. Providing students with tools to identify problem behavior and correct it. Lessons on understanding and handling behavior, effective communication, relaxation techniques, and problem-solving skills may help students improve behavior in all areas of their lives (Robinson, 2007).
- b. Model positive behavior through interactions between staff members, and between staff and students (Westmoreland & Little, 2006).
- c. Provide students with opportunities for autonomy, such as making decisions, taking on leadership roles, assisting with the development of

programs/policies, setting personal goals, and serving as role models for others (Stephanidis & Murphy, 2008).

- d. Involve family members in supporting positive behavior in students (Stephanidis & Murphy, 2008).

4. **Work towards student engagement, not just program attendance.** Weiss et al. (2005) stressed that sustained engagement is likely to lead to more positive outcomes than casual or irregular participation in a program. Engagement can be fostered by understanding students' affect, behavior, and cognition, particularly in response to program activities. Barko (2005) called this the "ABC model" and noted that after-school program staff can increase student engagement by being competent and accepting, communicating high expectations to students, practicing firm behavioral control, encouraging positive relationships among participants, and providing opportunities for stimulating and challenging experiences.

Evaluation Recommendations.

1. **Ensure that Program Afterschool is implemented as prescribed at each of the seven sites.** Evaluations of after-school programs sometimes uncover a lack of adherence to the program curriculum (Dynarski et al., 2003). Programs that are lacking structure, are poorly staffed, and take place in inadequate facility space are associated with negative student outcomes (American Youth Policy Forum, 2006; Miller, 2003). Implementation fidelity can be measured through site visits, observations, and discussions with staff members and participants.
2. **Involve staff members in all aspects of the evaluation process.** Research shows that when staff members are involved in developing research questions and

designing evaluation studies, they are more motivated to successfully carry out research activities (Bender et al., 2011).

3. **Collect data on short-term outcomes for inclusion in the evaluation.** The current evaluation study measured the medium-term student outcomes identified in the Logic Model (Figure 1, p.14). However, evaluation of the short-term outcomes such as homework completion rates, one-on-one time with teachers, positive interaction with peers, and engagement in group work may reveal improvements in student knowledge, attitudes, and behavior.

Directions for Future Research

There are several areas for future research that may address the possible explanations for the current results, as described earlier in this section. First, studies involving random assignment or matched comparison groups would provide much more information on what may have occurred had the current participants not been involved with Program Afterschool, thereby also providing a point of comparison through which to view the results obtained in the current study. If a matched comparison group or random assignment is not possible, comparison of Program Afterschool data to district, state, or national data would still allow for further understanding into how participating students compared to a larger group of middle school students.

Second, analysis on data from students who began Program Afterschool at one point but then dropped out would provide more information regarding student outcomes before and after program participation.

Third, subgroup analysis based on different demographic variables such as socio-economic status, race/ethnicity, gender, grade level, and other factors may reveal more

detailed information on whether or not different groups of students experienced a change in their outcomes during the program year.

Fourth, studies of students attending Program Afterschool for two or three years may show changes to student outcomes that were not apparent after one year only, as was examined in the current study. In addition, follow-up studies with the current cohort of students could be conducted to look at any longer-term changes to their outcomes after being in the program.

Fifth, qualitative research on student satisfaction and student engagement could provide valuable insight into students' experiences with Program Afterschool. The results from such analyses could be used to change aspects of program goals and activities, and compare simple student attendance to active student participation as it related to outcomes.

Sixth, a process evaluation and/or program fidelity study could ensure that Program Afterschool is being implemented as intended, as well as identify any areas for program revision. Finally, best practices research of similar organizations could reveal strategies that Program Afterschool may choose to implement in order to specifically target student outcomes, based on successes of other after-school programs serving similar populations.

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